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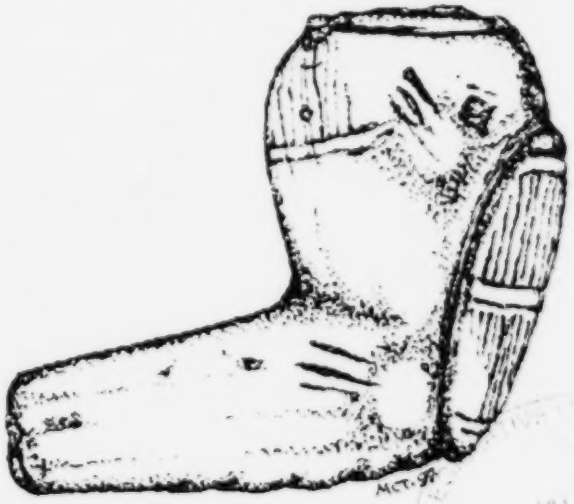
NINTH ANNUAL

ARCHÆOLOGICAL REPORT

ONTARIO

1998



ANNUAL ARCHAEOLOGICAL REPORT, ONTARIO

Volume 9(New Series) 1998

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Ceramic turtle effigy pipe recovered from the Moatfield site ossuary.
Illustration by Monicke Thibeault.
Submitted by Archaeological Services Inc.

Back Cover Illustration:
Queen Victoria Diamond Jubilee 1897 Commemorative Spoon from Surface of BbGc-73, Kingston, Ontario.
Illustration by R. Ventriggon.
Submitted by Lawrence J. Jackson

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ANNUAL ARCHAEOLOGICAL REPORT, ONTARIO

VOLUME 9 (NEW SERIES) 1998

Dena Doroszenko
Editor

The objective of the New Series of the Annual Archaeological Report, Ontario, is to provide a publication outlet for individuals wishing to publish abstracts describing the results of archaeological fieldwork conducted in the province of Ontario.

These abstracts will be of interest to those members of the general public who want to learn about the prehistoric and historic record of Ontario and will be a valuable reference tool to archaeologists as well as specialists in many other professions.

The Ontario Heritage Foundation seeks to preserve, protect and promote Ontario's archaeological, architectural, cultural, historical and natural heritage for the benefit and enjoyment of present and future generations of Canadians.

A not-for-profit agency of the government of Ontario, the Ontario Heritage Foundation was established by the Province of Ontario in 1968 and operates under the Ontario Heritage Act.

FROM THE EDITOR

This issue is the ninth volume of the Annual Archaeological Report, Ontario(AARO), a continuation, in a new form, of a series originally published by the provincial government between 1887 and 1928. This volume contains reports on archaeological work conducted in the Province of Ontario during 1997.

Twenty-nine essays were submitted for publication and cover a variety of projects in the public and private sector. As in previous years, essays were submitted by staff of the Ontario Region of Parks Canada.

Layout and design of this volume was conducted in-house by the editor and I am grateful to Ed Hong and Dan Pineda for their assistance in ensuring that , in terms of software and hardware, this volume was completed on schedule. I would also like to thank Suzanne Toutant for the typing services she provided.

The year started off with a sad event, the passing of Ian T. Kenyon, a collegue I had worked with for six years and who I dearly miss every day. He truly was brilliant and we have lost one of the great minds in our field. In fact, 1997 was a difficult year for archaeology in Ontario. We lost several dear friends and collegues who will be greatly missed: Dr. Howard Savage, Helen and Peggy Armstrong to name a few. All of these individuals played important roles in the development of archaeology in this province and their kind may never be seen again.

Dena Doroszenko

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CONSERVATION ACTIVITIES

SURFACE SURVEY OF INTERIOR CLAY PLAINS OF SOUTHERN PORTIONS OF KENT COUNTY, SOUTHWESTERN ONTARIO

LARRY DREW

With the encouragement of Neal Ferris, Regional Archaeologist,a licence was obtained to perform controlled surface collections and document local collections in the vicinity of our family farm. This work demonstrates that information valuable to understanding Ontario's prehistory can be obtained from thin lithic scatters, as well as by leveraging information available from local knowledge and existing collections obtained through the involvement of Avocational Archaeologists.

BACKGROUND

The study area is located in Borden Block AbHn and is inland on basically a featureless clay plain dominated by poorly drained Brookston clay soils. The topography is flat and is intersected by small creeks with knolls and rises, often barely noticeable, immediately adjacent to their banks. The creeks flow northward, joining Jeannette's Creek, a tributary of the Thames River. The research area includes inland drainages of parts of Raleigh and Tilbury East Townships, Kent County, located approximately midway between the Thames River to the north and the high cliff banks of the Lake Erie shoreline to the south.

At the time of historic settlement, the general area was within proximity of a convergence of several distinct environments. The area itself was a deciduous forest with many nut producing tree species. However, within several kilometres were a combination of a vast marsh land to the north, and marsh and/or prairie to the west and northwest.

ARCHAEOLOGICAL SURVEY

Beginning in 1997, a broad representation of artifacts by lot and concession number was documented from three existing local collections. Specific or general location information was recorded based on notes kept by the individuals when available, and by interviewing family members and local residents with knowledge of the artifacts. Only those artifacts known to have originated from the study area were mapped and recorded.

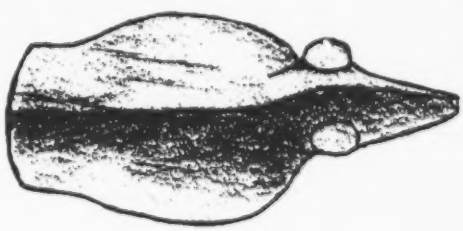

FIGURE 1. Pop-eyed Birdstone. Documented from local collection, found in Borden Block AbHn. Drawn by Larry Drew.

R.R.#5
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Armed with the above information, a controlled surface collection was carried out during the 1997 field season from plow disturbed areas on accessible farms.

In all, 8 sites within Borden Block AbHn were documented, along with 23 Isolated Find Spots. Most sites were relatively small and diffuse scatters of artifacts. In some cases, 2 or more site visits were necessary or obtaining additional information from local collections in which 3 or more artifacts had been found on the same knoll or rise over a number of years.

Diagnostic artifacts were tentatively identified with cultural affiliations and periods based on artifact typology.

DISCUSSION

Clay plains make up a large portion of S.W. Ontario and according to Murphy and Ferris (1990:123) were relatively inhospitable to Late Woodland groups as they remained wet much of the year and offered limited choice of vegetation in the undergrowth of the ash and elm canopy. While this study area's environment and drainage (at least at time of historic settlement) is consistent with this claim regarding later Woodland groups, there appears to have been other favourable factors during earlier periods when the interior clay plain appears to have been more widely used.

Preliminary information suggests the use of these interior clay plains steadily increased from Paleo through Middle Archaic periods. Heaviest use of the area appears to have been relatively steady from Middle Archaic through Early Woodland, and possibly indicates a continuum of subsistence and habitation patterns through these periods. Various complexes including the Glacial Kame, Adena, Meadowood, Middlesex and Couture are potentially represented based on tentative artifact typology. Ongoing research may provide domestic information on groups largely known only from mortuary sites and advance spatial and distributional understanding of these earlier and lessor known periods.

A marked decline in use, especially deeper in the interior, appears to have occurred during Middle and Late Woodland periods, indicating a change in subsistence and habitation patterns.

While site types have not been determined, they probably represent either single encampments or seasonal camps. A literature review suggests that the use of these interior clay plains were likely fall-winter season camps for deer and nut procurement with lithic scatters dominated by points. Yet the area has produced a very broad tool kit, and some valuable goods such as the Early Woodland birdstone (Figure 1)indicating perhaps more took place in the interior than is currently understood.

As the survey area is revisited in future field seasons, and the survey hopefully extended to other inland drainage systems of these clay plains, the distributional analysis can provide additional valuable information and reference data for interior locations - including spatial analysis, temporal and cultural use of the interior, and additional clues from artifact frequency and distribution by tool class.

REFERENCES

Drew, L.M.,
1997. "Archaeological Survey of Inland Drainages in Parts of Raleigh Township, Kent County, Annual Report under Licence Number 97-002." Licence Report on file, Ministry of Citizenship, Culture and Recreation, Toronto, Ontario.

Murphy, C., and N. Ferris,
1990. "The Late Woodland Western Basin Tradition of Southwestern Ontario" In *The Archaeology of Southern Ontario to A.D. 1650*, edited by C.J. Ellis and N. Ferris, pp 189-278 , Occasional Publication 5 of the London Chapter, The Ontario Archaeological Society.

MATERIAL CULTURE RESEARCH ON ARCHAEOLOGICAL COLLECTIONS: PARKS CANADA, ONTARIO SERVICE CENTRE

SUZANNE PLOUSOS, HELEN DUNLOP AND PETER SATTELBERGER

THREATENED COLLECTIONS PROJECT

The Threatened Collections Project has been the focus of Parks Canada, Ontario Service Centre, material culture staff since 1992. Assessing the resource value of archaeological collections from Ontario National Historic Sites, Parks, and Canals and enhancing the preservation and presentation potential of artifacts are our key objectives. Site assemblages are amalgamated in the Cornwall Resource Collection facilities, and organized for storage following standard practices of cultural resource management.

Working with students, each site collection is inventoried and the artifacts are assessed relative to the historical, archaeological, and material culture contexts. For assemblages from National Historic Sites, the artifact evaluation focuses upon material related to the commemorated intent of the site as designated by the Historic Sites and Monuments Board of Canada. Researchers prepare evaluation reports discussing typical and significant artifacts associated with each temporal phase of the site history. Reports highlight artifacts that are particularly representative of significant site themes and itemize objects with good presentation potential. Recommended material is pulled from the assemblage storage for a 'Site Resource Collection' and laid out in trays for easy reference by Parks personnel and interested researchers.

Department of Canadian Heritage
111 Water Street East,
Cornwall, Ontario K6H 6S3

FORT GEORGE 19H

Peter Sattelberger (1997) completed the draft report on collections from Fort George, a War of 1812 site in Niagara-on-the-Lake. Students sorted the collection of 118 boxes of material for storage and Peter Sattelberger began the initial selection of representative artifacts for the Fort George Resource Collection.

The resource collection features a fascinating, circa 1810, context of debris from a dinner party deposited into a pit beside the Officers barracks. The de facto deposit, (presumably spoils from a collapsed table) includes a full complement of tableware for a party of seven: green shell edged plates, platters and serving dishes, cruets, wine glasses, tumblers, and many wine bottles. Associated faunal material reflects a multi-course menu of game animals, birds and fish along with the remains of a complete cat skeleton. This assemblage will prove particularly rich for interpretive programming in the Officers' Quarters.

The resource collection also includes a selection of munitions (Figure 1) typical of the War of 1812: case and round shot, musket balls, gunflints, bayonets along with military insignia and other accoutrements. Archaeologists had retrieved some of these artifacts from 1812 War layers but most were from redeposited fills associated with fort modifications and from site disturbances in

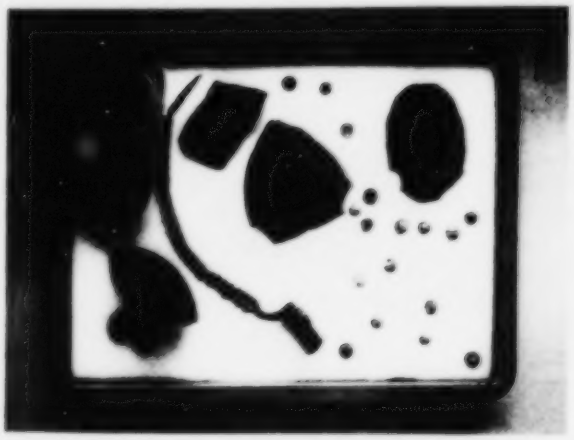

FIGURE 1. Fort George Resource Collection canister with shot and sabot, exploded shell with lead shot, canon barrel fragment with grape shot, and bayonet. (RAO-2818T)

the 19th and 20th centuries. A few trays of artifacts were also selected to represent other periods of Fort George history including: the pre-contact native to the pre-fort era, later 19th to early 20th century use of the site as a farm, and the WWI hospital and training camp predating the fort reconstruction in 1937-1940.

Fort George Commons 12H

Initial work began this year to amalgamate the Fort George Commons collections including the site of the Fort George Indian Council House/Military Hospital, and the Commandant's Quarters. Excavated in 1967/68 by Henderson (1967, 1973) the assemblage has high priority as a Threatened Collections project due to the context potential to enhance interpretation of Native involvement in the War of 1812. This year, the inventory of 77 boxes of material including ceramics, construction materials and faunal material was accomplished. Completion of an inventory of the remaining 90 boxes of material and the collection assessment is anticipated over the next two years.

Manitou Mounds 18H

Helen Dunlop (1997) completed her report on the Armstrong Mound, Manitou Mounds National Historic Site. This Laurel burial mound located along the Rainy River was excavated by Walter Kenyon in 1967 (Kenyon 1970). Human remains and artifacts from the mound matrix were re-interred on the site in 1995. Before reburial, and with the permission of the Rainy River First Nations, Parks Canada Conservation staff made reproductions of a representative sample of ceramic and lithic artifacts. The reproductions and moulds constitute the Manitou Mounds Resource Collection maintained by the Ontario Service Centre for archival and heritage presentation purposes.

Fort Wellington 2H

A resource collection was selected from the ceramic tableware (Figure 2) used by the Royal Canadian Rifle Regiment (RCRR) while stationed at Fort Wellington between 1843 and 1854. The material came from a latrine assemblage excavated in 1990/91 by Last (1996). This early to mid 19th

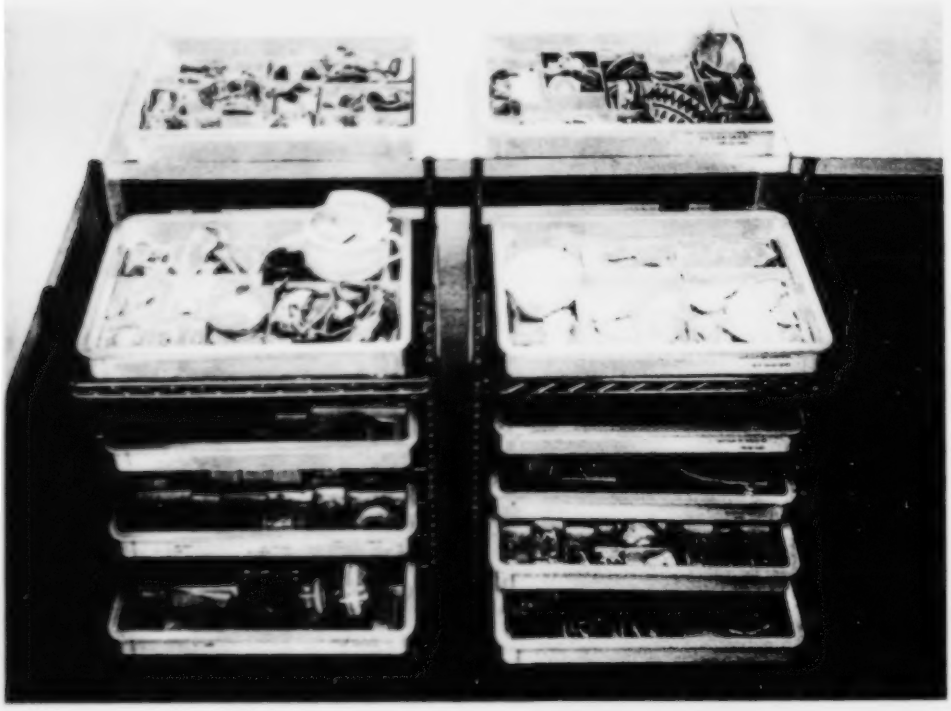

FIGURE 2. Fort Wellington Resource Collection exhibits typical ceramic vessels from the 1843 to 1854 Royal Canadian Rifle Regiment latrine layers. (RAO-2819T)

century assemblage has high research potential for interpreting the consumer revolution and its impact on the material life of soldiers and their families. The resource collection selection is based on a preliminary report detailing the RCRR latrine material culture prepared for Fort Wellington by Parks Headquarters, Material Culture Research Staff. (Sussman et. al 1994) Selection of textile and leather clothing items, armaments, glassware etc. will continue in upcoming years based on the report findings.

SUPPORT TO ONGOING ARCHAEOLOGICAL PROGRAM

Material Culture Research personnel provided expertise and service to Ontario Service Centre archaeologists in processing, inventory, analysis and/or presentation planning. Sites where assistance was provided include Healy Falls, Cairn Island, Cathcart Tower, Navy Island, Fort Wellington, Fort Mississauga and Fort George. The work is reported under the relevant Parks Canada site heading in this issue of the Annual Archaeological Report,Ontario.

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REFERENCES

Dunlop, Helen
1997. "Armstrong Burial Mound etc. " Manuscript on file, Parks Canada, Ontario Service Centre, Cornwall.

Henderson, James R
1967. "Preliminary Summary of Results 12H." Letter on File, Parks Canada, Ontario Service Centre, Ottawa.

1973. "Results of 1970 Excavations in the Fort George Military Reserve". *Manuscript Report Number 116*, Parks Canada, ttawa.

Kenyon, Walter
1970. "The Armstrong Mound on Rainy River, Ontario." *Canadian Historic Sites: Occasional Papers in Archaeology and History No. 3*, Parks Canada, Ottawa.

Last, Joseph
1996. "The Power of the Privy: Mediating Social Relations on a 19th Century British Military Site." Unpublished M.A. Thesis, Department of Anthropology, College of William and Mary, Virginia.

Sattelberger, Peter
1997. "Evaluation of the Fort George Archaeological Collection 1973-1996 Fort George N.H.S., Niagara-on-the-Lake." Manuscript on file, Parks Canada, Ontario Service Centre, Cornwall.

Sussman Lynne, Charles Bradley, Stephen Davis, Phil Dunning, Gerard Gusset, Catherine Sullivan, Joe Last and Suzanne Plousos
1994. "Material Culture of the Royal Canadian Rifle Regiment: Artifacts found in the Latrine at Fort Wellington, Prescott." *Microfiche Report 529*, Parks Canada, Ottawa.

CONSULTING ACTIVITIES
SUMMARY OF 1997 RESEARCH BY *ARCHAEOLOGICAL SERVICES INC.*

CHRISTOPHER ANDREAE*, ROBERT H. PIHL, AND RONALD F. WILLIAMSON

Cultural resource management activities, carried out within the context of land development, play a significant role in preserving and documenting the fragile archaeological record of Ontario. In addition to numerous heritage planning studies, the consulting firm of *Archaeological Services Inc.* (ASI), operated under the direction of Ron Williamson, conducted 113 archaeological assessments throughout Ontario during 1997, resulting in the registration or re-examination of over 80 archaeological sites. Further investigations were conducted on several of these, as well as on sites discovered in previous field seasons. Seven of the projects undertaken by the firm are discussed in further detail below.

THE MOATFIELD SITE

During the summer of 1997, the renovation of a soccer field in North York resulted in the accidental discovery of a late 12th to early 13th century Iroquoian village and its associated ossuary. In accordance with the wishes of Six Nations Council, the City of North York subsequently retained ASI to expose, record and exhume the remains in the ossuary pit, which had been partially disturbed by construction in order that they could be reburied in a protected setting. The excavation of the ossuary, completed under the project direction of Ronald Williamson and the field direction of Andrew Clish, determined that the ossuary contained the jumbled remains of 87 individuals, consisting of 58 adults, 23 juveniles, and six infants. The only artifact recovered from the ossuary was a small ceramic turtle effigy pipe, which was found at the very bottom of the pit (Figure 1). Detailed osteological analyses of the skeletal material prior to its reburial, and ongoing biological and chemical analyses of bone samples retained from the remains, all co-ordinated by Dr. Susan Pfeiffer of the University of Guelph and undertaken with the permission of Six Nations Council, are expected to provide important information concerning the lives of the members of this community.

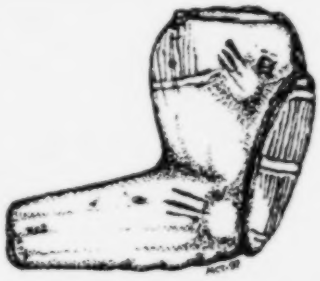

FIGURE 1. Ceramic turtle effigy pipe recovered from the Moatfield site ossuary.

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London, Ontario N6B 1X9

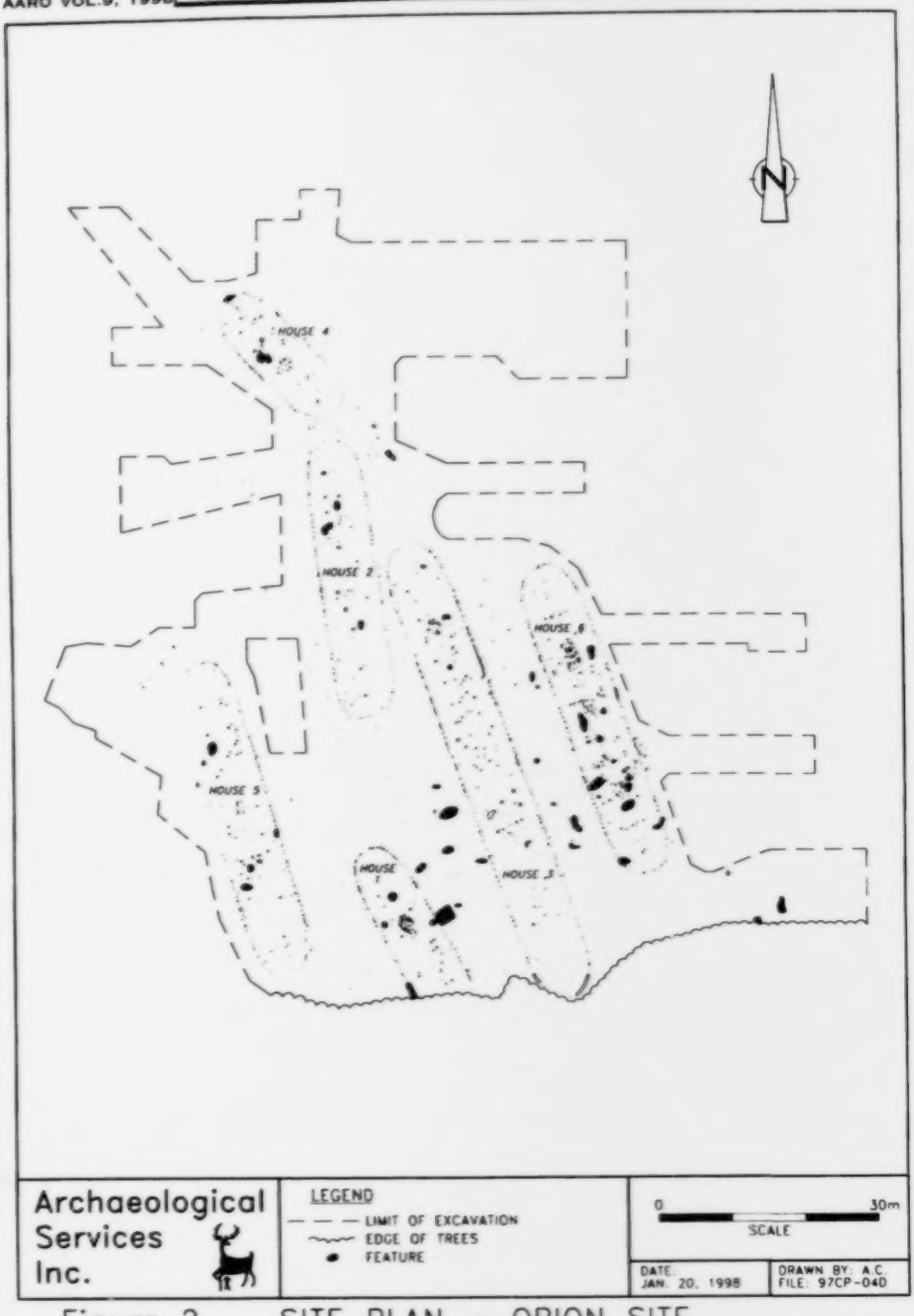

Figure 2 SITE PLAN – ORION SITE

THE ORION SITE

Full scale salvage excavations, under the project direction of Martin Cooper and field direction of Shaun Austin, were carried out at the Orion site (AlGu-45), located adjacent to the eastern banks of a headwater tributary of the Rouge River in Richmond Hill. This Late Iroquoian village was originally discovered in 1988 during the course of the Richmond Hill Archaeological Master Plan (ASI 1988), at which time it was thought to represent a small special-purpose cabin site associated with the nearby early 15th century Murphy-Goulding site (Austin et al. 1995: 39-41). The 1997 excavations, however, resulted in the discovery of six longhouses at the site (Figure 2). The close similarities in settlement patterns and artifact assemblages between Murphy-Goulding and Orion suggest that they constitute the northern and southern extremes of the same village. Encompassing an area in excess of three hectares, it is possible that the Orion/Murphy-Goulding site represents an early tribal-like coalescence in the upper Rouge River-Don River drainage basins similar to that proposed for the later Parsons and McKenzie-Woodbridge sites in the Humber River basin (Williamson et al. in press) or Draper on West Duffin Creek (Finlayson 1985).

THE PEACE BRIDGE SITE

In conjunction with the construction of a companion span for the existing Peace Bridge in Fort Erie, archaeological investigations were continued on the very large and rich buried archaeological deposit situated immediately to the north and south of the Peace Bridge in the urban core of Fort Erie, Ontario (Williamson and MacDonald [ed.] 1997; Williamson and MacDonald 1998). ASI was retained by the Buffalo and Fort Erie Public Bridge Authority to salvage excavate any deposits within newly proposed pier locations, all situated immediately south of the existing span. Previous assessment of the extent of the buried deposit confirmed its continuous presence below the surface of the roads, sidewalks, lawns and parking lots west from the Niagara River for some 400 metres and north from the Peace Bridge for approximately 600 metres, thereby encompassing an area of about 24 hectares (60 acres). Work this year, completed under the project and field direction of Ron Williamson, substantiated suspicions that the site extended south of the existing bridge for some distance. Four proposed pier footprints were investigated, each approximately 108 square metres in extent. Two of the piers were situated largely in landfill in a former shallow bay, while the other two were placed on the sandy beach along the former shoreline. While one of these was largely disturbed by previous nineteenth and twentieth century construction, the other yielded evidence of 15 prehistoric features, all of which probably date to Early Iroquoian times. The paleosol above these features, however, contained material dating to the Late Archaic (Genesee), Transitional Woodland and Early Iroquoian periods.

In total, several hundred stone tools and ceramic fragments were recovered, as well as tens of thousands of pieces of debitage from those units where all of the artifacts were collected. While the primary occupation of the site is Late Archaic Genesee, the most significant result of this year's work is the documentation of an extensive Early Iroquoian component to the site. Regardless of the period of occupation, people were clearly at the site to quarry the Onondaga chert that outcrops at that location, to fish and hunt, and to bury their dead as is attested to by the hundreds of burials that have been previously documented on the site.

An intact mid-19th century limestone/Onondaga chert block foundation was also documented in one of the piers. It would have fronted a now abandoned street that extended parallel to the former shoreline. While the foundation had a recent concrete floor, the remains of a mid-19th century brick-lined cistern were also recorded.

MASTER PLAN OF ARCHAEOLOGICAL RESOURCES OF THE CITY OF BRANTFORD

Due to the diversity and richness of its natural environment, the Grand River watershed has attracted human habitation for the past 10,000 years. In recognition of the need to protect this cultural heritage, the Corporation of the City of Brantford retained ASI, in association with Geomatics In-

ternational Inc., to prepare a master plan of archaeological resources for all City lands.

In order to understand the manner in which archaeological sites are distributed within the City, an archaeological potential model was developed using a Geographic Information System (GIS) to map current and former watercourses, soil distribution, and known registered and unregistered archaeological sites as separate, but complementary, layers of spatial data on 1:10,000 scale digital base maps. A series of statistical analyses were then carried out in an effort to examine potential relationships between known archaeological site locations, water sources and the distribution of soils within the City. The analyses indicated that over 85% of all registered prehistoric sites are found within 150 metres of water, which suggested that a buffer zone extending 150 metres from any water source constitutes an acceptable characterization of prehistoric archaeological site potential within the study area. Those lands lying within the floodplain of the Grand River at distances in excess of 150 metres from an identified water source were also considered to demonstrate significant potential for selection by prehistoric populations. Areas of early 19th century settlement as well as commercial, industrial and transportation development were also mapped within the GIS in order to identify zones of historic archaeological potential that could not be captured simply by a proximity to water model.

The major recommendations to arise from the study were that the fragile nature of archaeological sites be recognized in the City's Official Plan; that the Official Plan require that all future development applications in which any part of a property falls within an area of archaeological potential must be subject to an archaeological resource assessment; and that on those properties exhibiting archaeological potential where planning approvals were given, prior to the adoption of the master plan, then the development proponent should be advised of the potential presence of archaeological features, and of the City's interest in such resources.

THE HAMILTON WATERWORKS

The Department of Culture and Recreation of the City of Hamilton retained Historica Research Limited(HRL) and ASI to carry out a study of a number of heritage features associated with the Hamilton Waterworks on the grounds of the Hamilton Museum of Steam and Technology (Figure 3). The two steam engines of the Hamilton Waterworks began pumping water to the City of Hamilton in 1859. The waterworks was designed by Thomas Keefer, a well-known Canadian engineer. Over the subsequent 140 years, continuous changes were made to the waterworks to improve the plant's pumping capacity and operation efficiency. Today, the outstanding resources of the site are the pumphouse and the two original beam engines and pumping equipment manufactured by John Gartshore. Several other 1859 structures also survive.

The main objectives of the archaeological test excavations (HRL and ASI: 1998) included assessment and evaluation of the remains of the chief engineer and assistant engineer's houses, which were demolished in the early 1970s, the remains of the pumphouse built by the Osborne-Killey Company, in 1887, and demolished in 1965, the chimney foundations of the 1859 Keefer boilerhouse (Figure 4) and the 1859 intake (suction) conduit. Although most of these features had been significantly effected by demolition activities and landscape changes to the property, the test excavations did provide some insights concerning design and construction details, and further resulted in the suggestion that several areas of high archaeological potential survive on the property.

ARCHAEOLOGICAL ASSESSMENT OF THE RED HILL CREEK EXPRESSWAY

ASI and Unterman McPhail Cuming Associates, in association with Historica Research Limited, were retained by the Regional Transportation Department of the Regional Municipality of Hamilton-Wentworth to conduct an assessment of cultural heritage resources in the Red Hill Creek val-

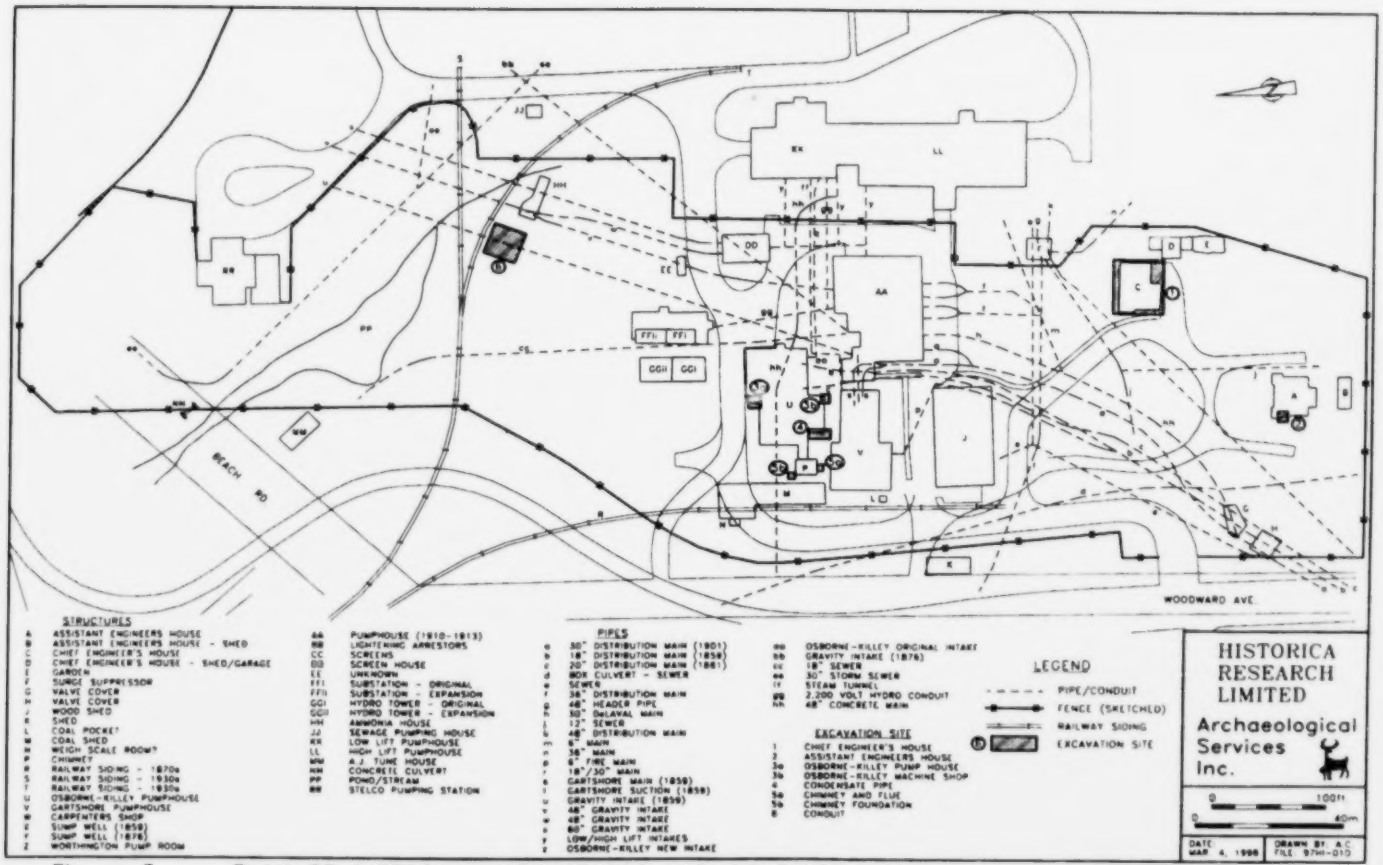

Figure 3 PLAN OF HISTORICAL STRUCTURES AND CONDUITS

CHRISTOPHER ANDREAE, ROBERT M. PIHL AND RONALD F. WILLIAMSON

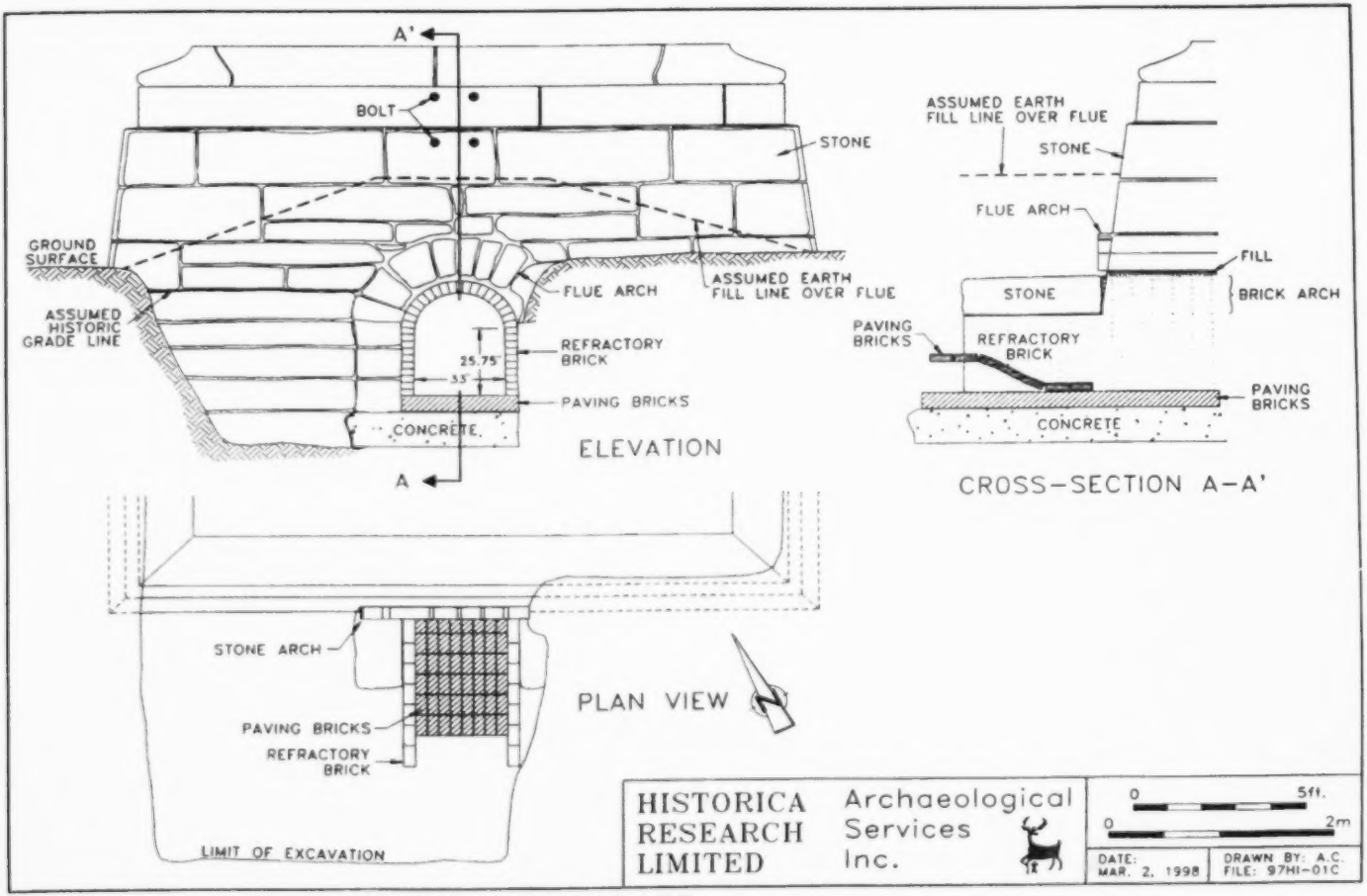

Figure 4 CHIMNEY STRUCTURE

ley that may be impacted by the North-South Section of the Red Hill Creek Expressway. A major component of the project was an archaeological survey of all lands to be effected by the Expressway. The study was conducted under the project direction of Ronald Williamson, with field direction provided by David Robertson in November and December of 1996, and Robert Pihl during the fall of 1997.

While eight archaeological sites located along the proposed route of the expressway had been discovered by researchers prior to the expressway study, 13 new components—three prehistoric sites, five prehistoric findspots, and five historic sites—were discovered during the course of this survey. The three prehistoric sites, and two of the historic sites, constitute significant resources that will require further examination. The 1997 field season also entailed Stage 3 investigations of the Spera, HH (Hissing Highway) and Recliner sites. Spera was originally discovered by William Fox, while HH and Recliner were originally documented by the Ministry of Transportation. Each of these Archaic to Transitional Woodland period components will be subject to further investigations in upcoming seasons.

ARCHAEOLOGICAL RESOURCE MANAGEMENT PLAN OF RUTHVEN PARK

On behalf of the Grand River Land Trust Foundation, Commonwealth Historic Resource Management Ltd. retained ASI as to contribute to the development of a management plan for Ruthven Park, an estate of approximately 640 hectares (1600 acres) situated on the Grand River north of Cayuga, Ontario.

The archaeological component, completed under the project direction of Ronald Williamson, with field direction provided by Robert MacDonald and Robert Pihl was undertaken in two phases. The main objectives of Phase 1 included the development of a predictive model of archaeological site potential for the property, based on an analysis of regional site data and environmental criteria, and an assessment of the scope and quality of an extensive collection of artifacts from local archaeological sites housed at the estate. Phase 1 also included the completion of test excavations at six separate localities within the main house. This testing was undertaken to assess the archaeological potential of the basement subfloor, to investigate several specific architectural features, and to shed light on the construction sequence and techniques as revealed by exposures of the foundations.

Phase 2 of the project entailed a campaign of archaeological survey in order to assess the scope and quality of archaeological features on the property; testing and revising the potential model in light of the survey results; assessing the potential of the archaeological sites as the foci of public programming initiatives; obtaining details concerning architectural and landscape attributes of various exterior features; and investigating several issues related to the overall occupational history of the Ruthven Estate. The survey sampled only a small portion of the Ruthven property. Nevertheless, 26 sites and two findspots were documented. The site inventory includes at least 34 components, including 12 Archaic (two Early Archaic, five Middle Archaic, four Late Archaic, and one transitional Late Archaic/Early Woodland occupation); four Woodland (two of which may be assigned to the Late Woodland period), five historic (one early 19th century Aboriginal, three early to mid-19th century undetermined, and one 20th century Euro-Canadian); and 13 prehistoric components of undetermined cultural or temporal affiliation. The inventory of sites discovered to date comprises an impressive and significant cultural resource base within Ruthven Park (Figure 5), and would provide a solid foundation for a long-term research programme.

One of the sites encountered during the survey was the May 1 site (AfGx-141), an early 19th century Aboriginal occupation that was first discovered by Fred Moreschfelder in the early 1980s. It is located on a small bluff overlooking the Grand River within an area known to have been occupied by followers of a Cayuga longhouse in the late 18th century. The recovered artifact as-

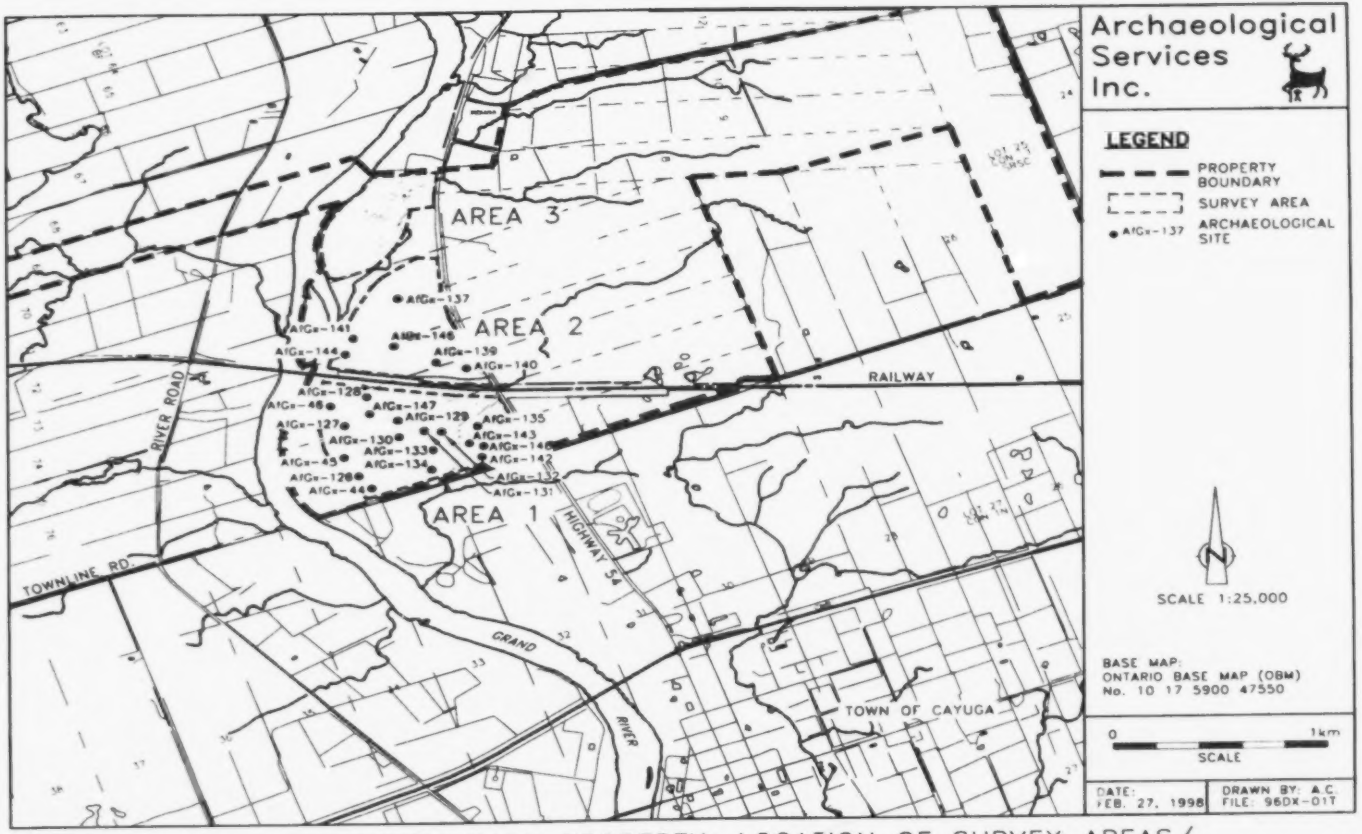

Figure 5 RUTHVEN PARK PROPERTY: LOCATION OF SURVEY AREAS/ ARCHAEOLOGICAL SITES

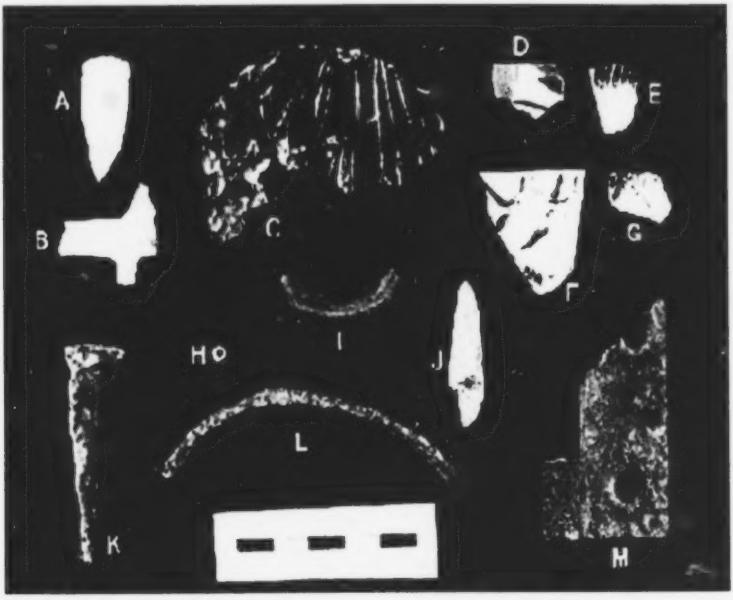

FIGURE 6. Selected artifacts recovered from the surface of the May 1 site: ribbed pipe bowl (A;) pipe stem (B); press moulded glass fragment with starburst-like pattern (C); hand painted early pallete rim sherd (D) blue scalloped edge rim sherd (E); pearlware rim sherd decorated in the Blue Willow pattern (F); underglaze red transferprinted sherd (G); discoidal shell bead (H); black basalt vessel handle fragment (I); antler tool tip fragment (J). wrought iron spike (K); unidentified wrought iron curved tool fragment (L); mortised door hinge fragment with offset pintle (M).

semblage (Figure 6) includes numerous ceramics, one discoidal white shell bead, white clay pipe fragments, a tip fragment of an antler tool and both wild and domesticated animal remains. Further investigations at this site would allow detailed testing of some of the hypotheses advanced by Kenyon and Kenyon (1986) and Kenyon and Ferris (1984), and provide greater insight into the aboriginal way of life in the Lower Cayuga area during the early 19th century, a time of change and flux for local aboriginal communities.

REFERENCES

Archaeological Services Inc.
1988. "Report on Phase 2 and 3 of the Master Plan of Archaeological Resources for the Town of Richmond Hill, Ontario." Unpublished report on file, Ministry of Citizenship, Culture, and Recreation.

Austin, Shaun J., Eva M. MacDonald, and Ronald F. Williamson
1995. "Summary of 1994 Research by Archaeological Services Inc." *Annual Archaeological Report, Ontario*, (New Series) 6: 39-44.

Finlayson, W.D.
1985. *The 1975 and 1978 Rescue Excavations at the Draper Site: Introduction and Settlement Pattern.* Archaeological Survey of Canada, Mercury Series Paper 130. National Museum of Man, Ottawa.

Historica Research Limited and Archaeological Services Inc.
1998. "Archaeological Report: Hamilton Museum of Steam and Technology." Unpublished report on file, Ministry of Citizenship, Culture, and Recreation.

Kenyon, I. and N. Ferris
1984. "Investigations at Mohawk Village." *Archnotes* 84-1:19-49.

Kenyon, I. and T. Kenyon
1986. "Echo the Firekeeper: A Nineteenth Century Iroquois Site." In *Studies in Southwestern Ontario Archaeology*, edited by W.A. Fox, pp. 68-91. Occasional Publications of the London Chapter of the OAS, Number 1. London, Ontario.

Williamson, Ronald F., Martin S. Cooper, and David A. Robertson
in press. "The 1989-90 Excavations at the Parsons Site: Introduction and Retrospect." *Ontario Archaeology* 65/66.

Williamson, Ronald F. and Robert I. MacDonald (editors)
1997. *In The Shadow Of The Bridge: The Archaeology of the Peace Bridge Site (AfGr-9), 1994-1996 Investigations.* Occasional Publications of Archaeological Services Inc., No. 1. Archaeological Services Inc., Toronto.

Williamson, Ronald F. and Robert I. MacDonald
1998. *Legacy of Stone: Ancient Life on the Niagara Frontier.* Eastend Books, Toronto.

CATARAQUI ARCHAEOLOGICAL RESEARCH FOUNDATION: 1997 CONSULTING ACTIVITIES

SUSAN M. BAZELY

The Cataraqui Archaeological Research Foundation is a heritage resource management group located in Kingston, Ontario. The organization promotes archaeological research and resource management through public education and awareness and Associate Archaeologists specialize in historical and marine archaeology. Projects in 1997 include monitoring of Kingston's most significant historic site, and Stage 1 and 2 Assessments.

FORT FRONTENAC BbGc-8

During May and June, 1997 Fort Frontenac was once again impacted. The installation of a new water main for the existing Fort Frontenac Staff College and another military building, Normandy Hall, was expected to disturb archaeological deposits associated with the extensive occupation of the fort.

Fort Frontenac was constructed by the French in 1673 with subsequent construction occurring in 1675 and through the 1680s in what is now the City of Kingston. This strategically located site, at the confluence of the Great Cataraqui and St. Lawrence Rivers and Lake Ontario, has been used by both the French and British for trade and military purposes. The upgraded stone fortification was used by the French to control the fur trade until its capture by the British in 1758. The area was not settled again until 1783 when waves of British Loyalists arrived after the cessation of the American Revolution. The surviving stone fortifications were demolished after the War of 1812 and the Tête de Pont Barracks were constructed in the 1820s, covering approximately half the French site. The Tête de Pont Barracks housed the Canadian Artillery from 1871 to the mid 1900s. Renamed Fort Frontenac in the 1930s, it is still used today by the Department of National Defence.

From 1983 to 1985 and again in 1987 the Cataraqui Archaeological Research Foundation conducted major excavations at Fort Frontenac. Due to the historical importance of this site, archaeological investigation is a necessity prior to and during any ground disturbing construction in this immediate area. During the installation of the water main monitoring of mechanical excavation was conducted by Sue Bazely and Thomas Krahn.

A trench measuring 250 metres in length was mechanically excavated along the north side of Place d'Armes from the west at King Street to the northeast to Normandy Hall. The west end was located to the exterior of the French fort, bisecting the location of the earthworks. The trench also ran adjacent to the British period Barrack Masters' House. The northeast section was part of the inner harbour prior to land filling, an area revealed to be an extensive waterlogged site (Frontenac Village BbGc-11). In general, only a

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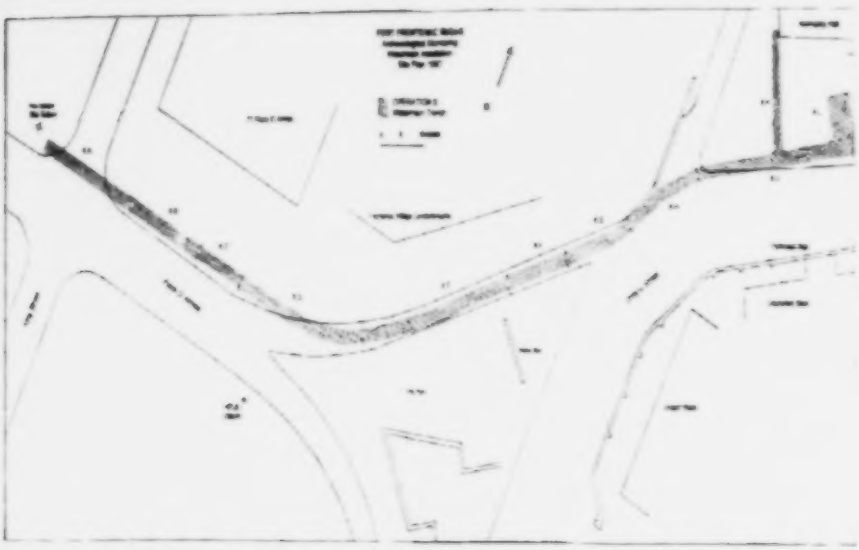

FIGURE 1. Fort Frontenac Watermain Installation Site Plan

small number of artifacts were recovered with the exception of the area of the inner harbour. In this location five sub-operations were identified, 6G, 6H, 6J, 6K and 6L. Over 5,700 artifacts were recovered from an early to mid 19th century context and of both domestic and military origin. Structurally, a section believed to relate to the earthworks was identified in 6C; mortared limestone walls in 6F appear to represent the French stable and also the Grand Trunk Railway (GTR) turntable; large limestone blocks in 6G are probably remnants of the GTR causeway.

The large collection of data and material culture generated with ongoing work in the vicinity of Fort Frontenac further confirms the significance of this site within the context of the settlement of this area.

STAGE 1 & 2 ASSESSMENTS

A Stage 1 Assessment of the route for the proposed sewage system in the Village of Winchester, Stormont, Dundas and Glengarry County was conducted in May of 1997. Although this area near the South Nation River is of significance, previously conducted archaeological assessments in the vicinity have yielded little information. Two new areas were identified for further work.

A Stage 1 Assessment for the proposed subdivision of city owned lands on Patrick Street in Kingston was conducted in June of 1997. Although located immediately north of the historic hamlet of Charlesville and the site of the c. 1861 House of Industry, the section of property to be subdivided was occupied by a mid 19th century quarry. The House of Industry was expanded to a Home for the Aged, which was run by the municipality on the same site until the early 1990s. The renovated structures are now occupied by the City's Social Services and Children's Aid Society.

A Stage 1 and 2 Assessment was conducted on the site of a proposed condominium

development, Queen's Court, in the historic core of Kingston during July 1997. The property located at Bagot and Queen Streets was in the vicinity of a height of land and a former stream. Close to Fort Frontenac, the area was identified historically as the location of the Iroquois Village. During the Loyalist settlement the area became part of the town of Kingston and a small section on the northwest corner of the property was part of the Garrison Garden, which eventually became the Artillery Park. Much of the property became covered with domestic and commercial buildings and by 1883 the Salvation Army had constructed its Barracks on the southwest corner. This eventually became a car garage and dealership from 1913 to the late 1980s. While testing revealed primarily evidence of the mid to late 19th century domestic occupation and the subsequent 20th century industrial/commercial use, a small section of the Artillery Battery Stable No. 2 was located. It consisted of a mortared limestone wall with evidence of a possible stone or flag surface or floor.

Archaeological monitoring was carried out at the intersection of Sir John A. Macdonald Boulevard and King Street West in Kingston in November 1997. Construction was related to the widening of King Street and the installation of catch basins and traffic lights adjacent to the Kingston Penitentiary and the former Warden's Residence. Excavations on the grounds of the Warden's Residence revealed evidence of earlier structures related to the Militia Barracks of the Upper Canada Rebellion and it was suspected that structures related to the early development of the Kingston Penitentiary, utilised by the Warden, might be encountered during the road re-construction. Evidence in the form of mortar and limestone was observed and recorded, but no artifacts were recovered to substantiate the period of use.

REFERENCES

Bazely, Susan M.

1997a. "Fort Frontenac BlOic-8; Archaeological Monitoring of Place d'Armes Water main." Manuscript in preparation

1997b. "Stage 1 Archaeological Assessment of Village of Winchester Sewage System Project, Stormont, Dundas & Glengarry County, Ontario." On file, Ontario Ministry of Citizenship, Culture & Recreation.

1997c. "Social Services Development - Rideaucrest Stage 1 Archaeological Assessment Patrick Street, Kingston, Ontario." On file, Ontario Ministry of Citizenship, Culture & Recreation.

1997d. "Queen's Court Development Stage 1 & 2 Archaeological Assessment 325-329 Bagot Street & 102-104 Barrack Street Kingston, Ontario." On file, Ontario Ministry of Citizenship, Culture & Recreation.

1997e. "Archaeological Monitoring Sir John A. Macdonald Boulevard & King Street West Intersection Kingston, Ontario." On file, Ontario Ministry of Citizenship, Culture & Recreation.

HERITAGE QUEST: 1997 CONSULTING ACTIVITIES

HUGH DAECHSEL

Heritage Quest Inc., incorporated in 1992, undertook 19 assignments in the 1997 calendar year. Concentrated in eastern Ontario these included Stage 1 investigations of the Garret Quarry (Frontenac Co.), Cumberland Transitway/Blackburn Bypass (Regional Municipality of Ottawa Carleton (RMOC)), Champlain Bridge (Ottawa), Old Supreme Court Building Site (Ottawa) and Smooth Rock Falls (Cochrane District). Stage 2 and Stage 2/3 assessments included Wellington Bay Estates (Prince Edward Co.), the Old Supreme Court Building site (Parliament Hill), Federal Court House site (Ottawa), Nortel Carling Campus Expansion (Nepean) and for changes to the Highway 401 and Division Street interchange (Kingston). Stage 3 investigations were undertaken at the Grant (BaGf-18) and Church Sites (BaGf-20) along Highway 33 (Loyalist Parkway) near Bath, Ontario. This work was followed up by Stage 4 investigations at the Grant (BaGf-18) and Craven (BaGf-19) sites. Archaeological monitoring projects included installation of a duct bank for the Centre Block Underground Storage Building (CBUS), soil removal from the CBUS building site and Centre Block Senate Entrance, and slope restoration in the vicinity of Lovers Walk, on the east side of Parliament Hill.

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FEDERAL COURT HOUSE (BIFW-36, 37 & 38)

Following on recommendations provided in a Stage 1 archaeological investigation of the location of the proposed Federal Court House Site (Daechsel 1993), situated on Wellington Street southwest of the Supreme Court Building, a Stage 2 archaeological investigation was undertaken of selected portions of the site. This area, presently a park, was once part of the commercial/residential core of Upper Bytown, established in 1826 by Colonel John By. Most of the lots in Upper Bytown where expropriated in 1912 by the Federal Government. By the late 1930s the area had been cleared of all nineteenth century buildings and the present Supreme Court Building was under construction. The subject area was the site of one of a series of temporary frame buildings constructed during World War II and removed in 1972.

The objective of the investigation was to determine if anything remained of the 19th century activities in the area to be developed. Three areas were examined by the mechanical excavation of six trenches, the position of which was determined by location of historic buildings as identified in the Stage 1 investigation.

A total of 56 square meters was excavated, most to bedrock, which averaged about 2.5 meters below the present grade. The excavation revealed that the temporary government buildings constructed in the late 1930s and demolished in the early 1970s had extensively impacted much of the upper soil levels of the site. The investigation

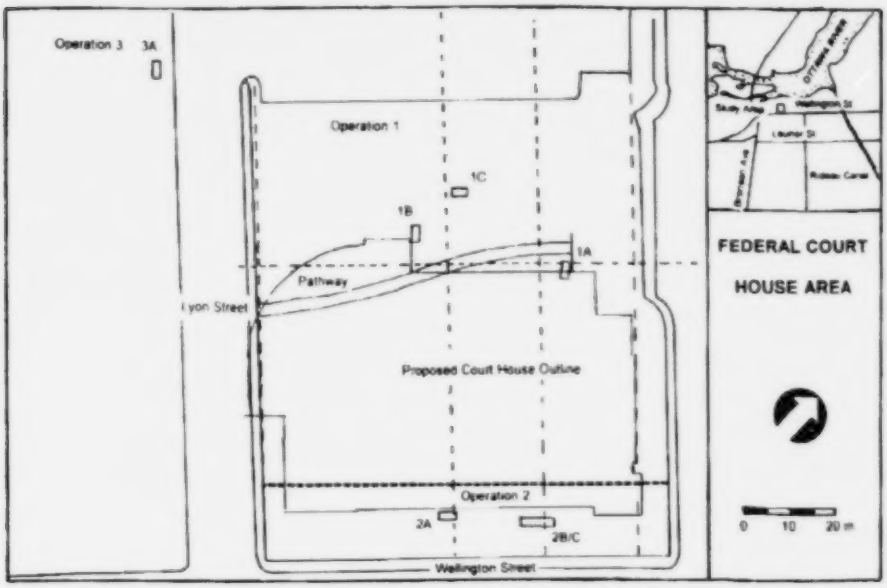

FIGURE 1. Location of test units in for the Federal Court House property. CBUS Building Monitoring (BiFw-12)

did reveal evidence of the nineteenth century commercial/industrial corridor along Wellington. Walls from at least three buildings dating from the 1840s to 1870s were uncovered as well as an isolated deposit of early to mid-nineteenth century artifacts (creamware and pearlware ceramics) located in a carriage way dividing buildings between lots 5 and 6. The investigation has resulted in the identification of three sites: Fournier Dry Goods store (BiFw-36), Britannia Hotel (BiFw-37) and Carriage Way (BiFw-38) (Daechsel 1997).

Following up recommendations from a Stage 2/3 Archaeological assessment of the CBUS building site, situated on the northwest corner of Parliament Hill, (Daechsel & Sattelberger 1996) the construction of the building was archaeologically monitored through the summer and fall of 1997, under the direction of Brenda Kennett. Historically, the west Barracks building, part of the military occupation of the site (1826 – 1858) was located within the area to be affected by construction activities as well as various temporary buildings associated with the original construction of the Parliament Buildings (1859-1866) and reconstruction of the Centre Block (1916-1922). The stage 2 investigation had failed to reveal any substantial evidence for the Barracks Hill occupation but had produced material related to the nineteenth century construction of the Parliament Buildings and associated landscaping.

The results of the archaeological monitoring corresponded, in general, to those of the Stage 2 investigation. Soils, usually less than one meter in thickness over a limestone bedrock, consisted of fill deposits dating from the 1870's landscaping of the grounds and the 1916-1922 reconstruction of the Centre Block. The monitoring did, however, reveal a number of features significant to understanding the historic development of Parliament Hill.

The most important of feature was a large deposit of heavily burnt material located immediately east and south of the Alexander Mackenzie Monument. Most of the assemblage recovered

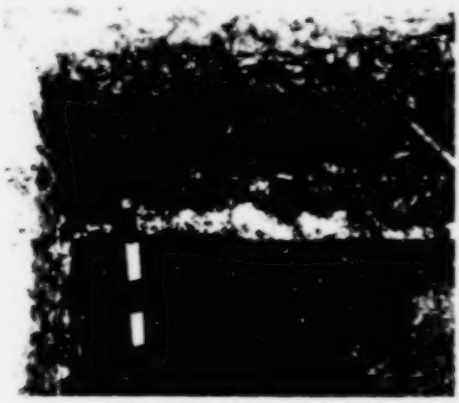

FIGURE 2. View of mortar and ash deposit with Chinese Export Porcelain near Mackenzie Monument on Parliament Hill

from this deposit consisted of ceramic tableware predominated by Chinese Export Porcelain servingware and teaware. The concentration of this material on a military site in Upper Canada is rare. It would appear that the material is from the personal service of one of the officers serving with the garrison on Barrack's Hill. The burnt nature of the material suggests that the material was lost with the burning of either the Centre Barracks in 1832 or the West Barracks sometime between 1832 and 1834 (Kennett 1998: 86).

The soil stripping also revealed evidence of two quarry sites, cuts into the limestone escarpment along the west face of Parliament Hill. These features date to the military occupation of Parliament Hill where building material was extracted for construction of the barracks as well as for other buildings in Bytown. Both of these depressions were filled during the 1870s landscaping of the area.

Identified features that relate to the Parliament Buildings include a French drain uncovered north of the Centre Block between the Library and the Darcy McGee monument. The drain was constructed of dry laid limestone set in a cut in the bedrock. Covering the feature were sandstone blocks that appear to have been from the original lamp standards constructed on Parliament Hill. Also revealed was one of the original sewers emptying out the west side of Parliament Hill.

FORMER SUPREME COURT BUILDING (BiFw-35)

In conjunction with Mount McGovern Co. Ltd., Heritage Quest Inc. undertook a Stage 1 and 2/3 archaeological investigation of the site of the former Supreme Court Building on the northeast corner of Wellington and Bank Streets, part of what is known as the West Terrace portion of Parliament Hill. The objective of the investigation was to determine what remained of the nineteenth century structures in a parking lot area at the southwest foot of Parliament Hill. The area had been the site of workshops and the original location for the Supreme Court of Canada. The buildings were removed in 1956.

A total of six weeks was spent on the site with nine units of varying sizes opened, under the direction of Jeff Earl. Each of these units revealed foundations and/or deposits from the period of the original Government Workshops building (1874) through to the creation of the parking lot (1956). Specifically the assessment revealed structural remains of the 1874 main workshops building, the 1890-92 north wing expansion, the 1906-1907 library and stair tower expansion as well as a wood drying shed and lumber storage sheds and smithy dating to 1875 (Earl 1998). A total of 8,633 artifacts were recovered in the investigation, most of these were architectural in nature.

HIGHWAY 33 STAGE 3/4 INVESTIGATIONS OF GRANT (BAGF-18), CRAVEN (BAGF-19) AND CHURCH (BAGF-20) SITES.

Heritage Quest Inc., in the fall of 1997, undertook, on behalf of the Ontario Ministry of Transportation, Stage 3 investigations of the Grant and Church sites and completed Stage 4 investigations of the Grant and Craven sites located along Highway 33 approximately 4 kilometers west of Bath,

FIGURE 3. View of stair foundation part of the 1906-07 tower expansion of the Old Supreme Court Building.

Ontario. The work, under the direction of Heather Henderson, followed up earlier investigations of the area by the Ontario Ministry of Transportation.

GRANT SITE (BAGF-18)

The most easterly of the three sites, the Grant site is situated on the west side of a small creek overlooking the north shore of Lake Ontario. Over 108 metres squared were hand excavated with an additional 200 metres squared opened by a gradall.

The investigation revealed two distinct occupation areas within the Right-of-way corridor examined. These include the remains of two building sites, the earliest dating possibly from the late eighteenth and certainly from the early nineteenth century, based upon the presence of Creamwares and older Pearlwares, situated at the west end of the site and the second dating from the early to mid-nineteenth century located closer to the creek. Over 39,000 artifacts were recovered in the investigation including a broad range of ceramics consisting of creamwares, pearlwares and refined white earthenwares. The assemblage included a Bear Island Point, a quartz scraper and a very rough ground stone adze.

CRAVEN SITE (BAGF-19)

The Craven site, situated approximately 200 meters west of the Grant Site, was the subject of a Stage 4 investigation. The investigation completed earlier field investigations on the site undertaken by the Ministry of Transportation. An area of 65.5 metres squared was hand excavated bringing the total area recovered by hand to 113.5 m2 between the 1997 and 1996 field seasons. Approximately 250 metres squared was stripped to subsoil by a gradall.

The investigation revealed a stone pavement feature and a dark loam stain both relating to a structure on the site dating between 1800 and 1830. Over 21,000 artifacts were recovered from the combined investigations. The low percentage of architectural materials suggests that a log cabin

rather than a frame building was constructed on the site.

CHURCH SITE (BAGF-20)

A Stage 3 investigation of the Church site located 400 meters west of the Craven site was completed in the fall of 1997. The assessment revealed a mid-nineteenth century home at the northern limit of the right of way as well as earlier historic deposits in an undisturbed horizon. A trace of Late Woodland ceramics were also identified in the site.

REFERENCES

Daechsel, Hugh J.

1993. "Phase 1 Archaeological Investigation of New Federal Court Building Site, West Parliament Hill, Ottawa, Ontario." On file, Public Works and Government Services Canada

1997. "Stage 2 Archaeological Assessment of Federal Court House Site Wellington Street, Ottawa, Ontario. "On file, Public Works and Government Services Canada

Daechsel, Hugh J. & Peter Sattelberger

1996. "Stage 2/3 Assessment of CBUS Building Site, Parliament Hill (BiFw-12), Ottawa, Ontario. " On file, Public Works and Government Services Canada.

Earl, Jeff

1998. "Stage 2/3 Archaeological Assessment of the Site of the Government Workshops/ Supreme Court Building (BiFw-35), West Terrace, Parliament Hill, Ottawa, Ontario. " On file, Public Works and Government Services Canada.

Kennett, Brenda L.

1998. "Archaeological Monitoring and Recording of Soil Stripping for the CBUS site, Parliament Hill (BiFw-12), Ottawa, Ontario. " On file,Public Works and Government Services Canada.

ADVANCE ARCHAEOLOGY

LAWRENCE JACKSON AND DONNA MORRISON

THE SMITH (AHHA-11) SITE: STAGE 4 EXCAVATION OF A LATE ARCHAIC NARROW POINT CAMP, ANCASTER, ONTARIO.

As part of an extensive Stage 4 mitigation project, Advance Archaeology carried out over 400 square metres of excavation at 10 lithic scatters on the Jerseyville Estates property, Ancaster in 1996 and 1997. Previously recorded by Stewart Leslie as part of the Smith (AhHa-11) site, activity area E proved to have a strong Late Archaic Narrow Point component.

Located on the north edge of a stream ravine which connects to Big Creek and, eventually the Grand River, Area E is one of 10 lithic activity areas investigated on the Jerseyville Estates property in 1996 and 1997 (see Figure 1). With 134 square metres excavated, Area E produced 2,254 pieces of debitage, 85 tools, and eight calcined bone fragments. Raw material use is 96.6% Onondaga chert, 3.3% Haldimand chert, and 0.1% other materials. Biface thinning flakes are dominant in the debitage (45%), followed by flake fragments (35%), flakes (11%), modified flakes (7%), reduction fragments (2%), and four utilized flakes, six core fragments, and two cores. Tools include 22 projectile points, 27 preforms, 12 bifaces, five gravers, seven end scrapers, four side scrapers, three unifacial notches, two drills, and three groundstone fragments. High incidence of points and preforms (58% of tools), as well as biface thinning debris, clearly identifies Area E as a "gearing up" camp. Debris/tool ratios are 9 to 1 counting modified flakes as tools.

There appear to be two subareas to Area E, one in the central and north part of the excavation and one in a small northeastern section (see Figure 1). Of 11 points assignable to type, eight document Late Archaic Narrow Point occupations. Identified points include one Early Archaic bifurcate base, one Brewerton side-notched Middle Archaic, four Lamoka and four Normanskill (Narrow Point) Middle Archaic points, and one possible Middle Woodland Kramer point.

Figure 2 illustrates projectile points collected from the Smith site (all areas) and recorded by Stewart Leslie in the late 1970s. The top row shows a strong Narrow Point representation. Due to its frequent use for hay and pasture, the Smith site has not been thoroughly "vacuumed" of diagnostics like many sites in the Ancaster area repeatedly visited by collectors.

Narrow point tradition sites are rare in southern Ontario and the range of variability and tool assemblages poorly known. Area E of the Smith site, although it produced only a single subsoil feature (with no associated diagnostics), offers new insights into Narrow Point activity area size and tool assemblages. Analysis of this material is ongoing.

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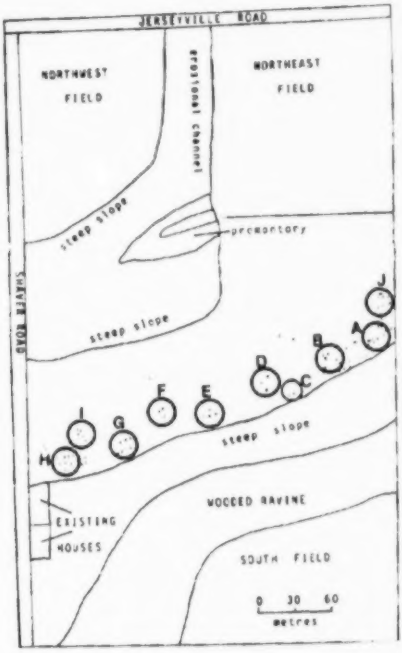

FIGURE 1. Jerseyville Estates Site Areas. (Dots indicate surface finds)

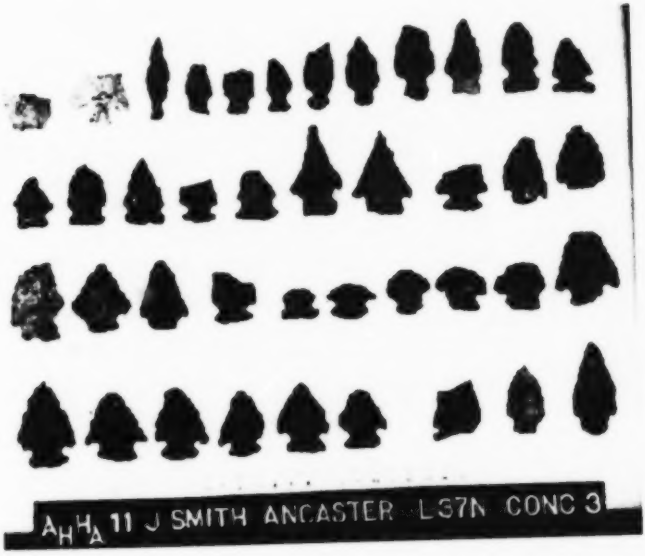

FIGURE 2. Projectile points collected from the Smith Site. Photograph courtesy of Stewart Leslie.

NORTHEASTERN ARCHAEOLOGICAL ASSOCIATES, 1997

LAWRENCE JACKSON AND DONNA MORRISON

THE CAYUGA QUARRY (AfGw-113): DESTRUCTION AT AN ONONDAGA CHERT BEDROCK QUARRY SITE, LAKE ERIE, ONTARIO

Discovered in 1992 during a subdivision archaeological assessment, the Cayuga Quarry site (AfGw-113) was an extremely large, Middle and Late Archaic Onondaga chert bedrock quarry on the north shore of Lake Erie just west of the mouth of the Grand River. The site is made up of at least eleven discrete activity areas and shows a wide range of quarry reduction and residential activity (Figure 1). Stage 3 testing in the Haldimand clay provided useful data on each area.

Area A is situated directly on an Onondaga chert bedrock exposure. It is subdivided into an East Half with both quarry and residential activity and a West Half with quarry activity only - primarily preparation of large blocky cores. Area A East is classed as medium artifact density while Area A West is clearly high density. Area C is much larger and located on a relatively flat area just above bedrock. Area C North is a high density core reduction area while Area C South is a medium density area dominated by expedient flake tools. Finally, Area D has three distinctive areas: D2 is a medium density area dominated by finished tools, D3 is a high density area dominated by expedient tools, and D6 is a high density area focused on early stage preforms. The remaining areas shown in Figure 1 did not have any single clear activity focus.

The Cayuga Quarry site is an object lesson in the failure of many developers to respect the Ontario Heritage Act. The site was severely damaged in June of 1997 before our arrival on site by unauthorized use of drilling machinery and a bulldozer to cut a stormwater sewer through the center of Area A. Both Area A East and Area A West were severely damaged (see Figure 2). In addition, road construction to the north of these areas partially damaged Areas C-North and D-3. Reporting these site impacts to the Ministry of Citizenship, Culture and Recreation had no apparent remedial effect on the site developers. Stage 4 salvage at the site was completed by another firm.

The Cayuga Quarry site held considerable potential to address the multivariate nature of prehistoric quarry activity at a horizontal bedrock exposure. One of the most striking aspects of the site is clear evidence for activity area differentiation with probable sequencing in reduction strategies. Equally significant is evidence for more "normal" residential activity in the form of both formal and informal tools used in these areas. Archaic peoples were not only quarrying but also living, at least for short periods, at the site. The presence of heat-fractured Onondaga chert also strongly suggests that subsoil features were present. Similar evidence was recently found at the Madoc Quarry site (BdGi-4) where subsoil features were dated to the Small Point Archaic.

In summary, it is suggested that sites such as Cayuga Quarry should be the focus of more

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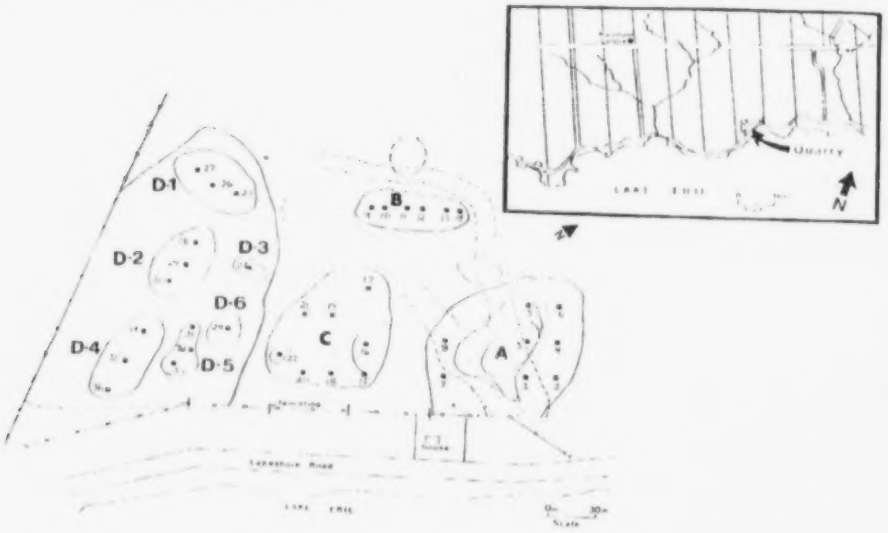

FIGURE 1. Activity areas and Inset location map for the Cayuga Quarry Site (AfGw-33), Lake Erie, Ontario

FIGURE 2. View of North-South trenching through center of Activity Area A, Cayuga Quarry Site, June 1977.

intensive investigation than Stage 4 salvage normally allows. There are significant research questions to be answered at these sites where the overwhelming abundance of material often suggests that no reliable settlement or functional data is to be obtained.

MEADOWBROOK SOUTH: A DEEPLY BURIED EARLY ARCHAIC CAMP IN ANCASTER, ONTARIO

Stage 4 salvage of a small camp in a ravine at the Meadowbrook South site (AhHa-22) produced a significant collection of Early Archaic artifacts. These included Hi-Lo, bifurcate base, and Nettling corner-notched points in a localized distribution. Excavation of some 84 square metres in a deep erosional gully (unit depths of up to 1.2 metres were recorded) revealed evidence of only one possible subsoil feature with limited lithic evidence for settlement pattern.

Work at adjoining areas of the site produced evidence of a camp and possible kill area revisited over more than 8,000 years. Examples of Gainey, Middle and Late Archaic, and even Early Woodland projectiles were concentrated in an area frequented by local collectors and white-tailed deer. Although parts of the site had been "vacuumed" of artifacts by repeated collections (not by the deer), deeply buried areas contained useful new data on the Early Archaic. It is suggested that more funding be devoted to potential buried sites to permit broader excavations.

BUILDING ON OLD FOUNDATIONS: SOME ARCHAEOLOGICAL MITIGATION AND HERITAGE PROJECTS CONDUCTED IN 1997 BY MAYER HERITAGE CONSULTANTS INC.

ROBERT G. MAYER, TREVOR J. HAWKINS, SCARLETT E. JANUSAS AND SEAN W. GOUGLAS

Mayer Heritage Consultants Inc. is a London-based Canadian company which maintains its head office in Byron Heritage House in the Byron community at the west end of London. The corporation also has regional representatives and facilities in Toronto, Guelph, Hamilton, Sudbury, Huntsville and Montreal. For large projects such as those concerned with the construction of the Electronic Toll Route 407 in the Greater Toronto Area or the construction of the second span of the Blue Water Bridge and its allied facilities, temporary field offices incorporating complete electronic communication facilities and vehicle shuttle services are established.

Mayer Heritage Consultants Inc. (MHCI) offers services in a number of broadly defined areas: 1) Cemetery Delineation & Removal; 2) Land Development (industrial and residential), including special uses such as power co-generation; 3) Transportation and Infrastructure; 4) Conservation; 5) Aboriginal First Nation Project Consulting; 6) Archaeological Master Plan Development; 7) Heritage Evaluation; and 8) Peer Review. Final reports for the projects described in this summary have been filed, as applicable, with the Ministry of Citizenship, Culture and Recreation (OMCzCR), or with other regulatory or concerned agencies.

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During 1997, Mayer Heritage Consultants Inc. conducted 72 survey and test excavation projects in Ontario involving 28 subdivisions, 18 quarries, 12 pipelines, ten roads, two underwater investigations, a marina and a cemetery. Site registration and/or update forms for 72 sites were submitted to the Ontario Ministry of Citizenship, Culture and Recreation for inclusion in its archaeological site database.

Mitigative excavations were conducted on nine sites including Early Archaic camps in Caledonia, Cambridge and Fonthill, an Early Woodland burial on Pelee Island, a Middle Woodland multi-component camp in Lambton County, a Princess Point camp in Brantford, a 19th century Euro-Canadian homestead in the Regional Municipality of Halton, and the Atherley Narrows fish weirs in Orillia.

Details of the Early Archaic camp in Fonthill were published in KEWA. Other articles were published in Arch Notes concerning the Pelee Island burial, the Middle and Princess Point camp in Brantford, and the Atherley Narrows fish weirs.

This summary of some of the activities of Mayer Heritage Consultants Inc. throughout 1997 considers each from the viewpoint of "building on old foundations", some figuratively and others literally.

BENDER HILL BRIDGE, NEW HAMBURG

The study of the Bender Hill Bridge in New Hamburg concerns a bridge that was not only built upon the old foundations/abutments of its predecessor(s), but also required solving a minor mystery concerning its name. Bridges, unlike most stand-alone buildings or facilities, are part of a country's communications and transportation systems. As such, in a heritage evaluation, the larger context of these systems and their history form an integral part of the bridge's history. In 1997 (a signal year for bridge building, marked by the opening of the Confederation Bridge linking Canada's Prince Edward Island to the mainland, and by the building of the first bridge using space age composites) the "shunpiker" is taken back in time as he or she comes upon such a bridge as the Nith River "Bender Truss Bridge" as it was described by the engineers. And therein lies the mystery, for no one could find any evidence that Charles Bender, the only known bridge designer of that family name, having received a U.S. patent in 1871 for his "fantastic" design (Plowden 1974:123), had designed anything other than a suspension bridge.

During the oral interviews conducted as a part of this study, it was discovered that the road rising up the scarp west of the bridge passed the John Bender farm and that the bridge is known locally as the Bender Hill or, more simply, as the Bender Bridge. Might one therefore conjecture that each of the bridges at this location was known as the Bender Bridge, and when the first truss bridge was erected, might it have with a sense of local pride and progress and with no intended obeisance to any bridge designer, simply become known as the Bender Truss Bridge?

The overall truss design of the bridge (approximately 41.5 metres long) rests on its end abutments. These are of poured concrete, but they incorporate the stone abutments of the earlier bridge. The individual stones measure approximately 40 centimetres in height and are of varying lengths. There are four round timbers or posts projecting above the water in front of the east abut-

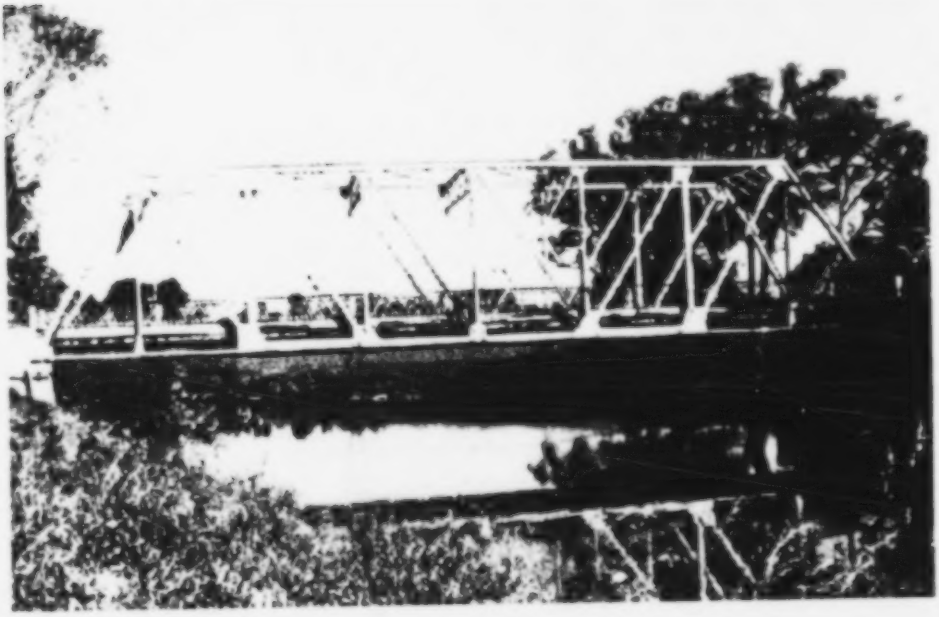

FIGURE 1. Bender Hill Bridge

ment, and it is reported that similar posts exist below the water line at the west abutment. It is not known if these were installed as part of the construction process during the building of the stone or concrete abutments or are remnants of an even earlier wooden bridge.

The 1997 assessment report prepared by Dr. J. Trevor Hawkins placed this bridge in its historical perspective, describing its evolving importance and decline as a consequence of developments in transportation technology (MHCI 1997a). Located on Regional Road 1 (Bleams Road), it is to the north of the Huron Road, the main east-west communications road in the area. The Huron road passed through Haysville which provided hotel, stable and stage coach facilities. With the coming of the Grand Trunk Railway through New Hamburg, Haysville went into decline. As motor cars improved in their reliability and motor trucks gained increased load capacity, the developing highway system provided competition for the railway.

In 1935, the original bridge was replaced by the steel truss bridge which has now come to the end of its useful life. Similar in design to hundreds of bridges being constructed at that time as part of Ontario's as yet unpaved provincial highway system, this bridge became part of the Highway 7 route which stretched from Sarnia to the eastern part of the province. In more recent years, it became unnecessary for motorists to travel through each town to add motor oil to the engine, to have tire punctures repaired, or to ask for directions, and bypasses around many towns and cities were built. Such was the case with this stretch of road which lost its highway status and reverted to its early role of being a local communications road.

ATHERLEY NARROWS FISH WEIRS

In a variation of the "old foundations" theme, Parker Consultants Ltd. (now Stanley Consulting Group) and D.S. Lea Associates Ltd., acting as project managers for the Ontario Ministry of Transportation, contracted Mayer Heritage Consultants Inc. to undertake terrestrial and underwater archaeological assessments and monitoring during construction of the new second span of the Highway 12 bridge at Atherley Narrows near Orillia in Simcoe County. While it is believed that the Atherley Narrow Fish Weirs at this location were last used nearly fifty years ago, they continue to hold a significant place in the First Nation culture.

The weirs have been investigated by Johnson and Cassavoy (1973) and by Cassavoy (1974, 1992, 1994 and 1995). Since 1995, investigations on this federal waterway have been conducted by the marine archaeological unit of the Canadian Parks Service. During the course of these investigations, the as-found conditions of hundreds of wooden fish weir stakes were documented. Some of these stakes radiocarbon date as old as from 2610 to 2425 B.C. (4500 B.P.)

The originally proposed method of constructing the new span was to employ a construction barge, but the placing of the stabilizing spuds might have caused unacceptable impacts. Therefore, the contract was extended to include a Stage 2 general survey of the area where a trestle on a rip rap base was built as the preferred alternative method of construction.

Under the direction of Scarlett Janusas, divers were in the water during actual construction to ensure that there would be no impact to the fish weir stakes. The task was not straight forward however, for the channel with its two knot current, remained open for the heavy summertime boat traffic. In addition, the silt barrier erected to protect the fish habitats and fish weirs created greatly reduced underwater visibility. This required the divers to search for the stakes using a gentle touch and feel method.

To locate fish weir stakes buried in the deep silt, a new bottom profiling technology was employed. Older profiling technology required a minimum of 15 feet of water between the towed profiling equipment or "fish" and the bottom. This newer equipment permits readings to be obtained in water as shallow as one foot. In this manner, pilings and caissons could be constructed without adversely impacting any of the fish weir stakes.

Atherley Narrows continues to be an im-

portant site to the First Nation members who use the site as an integral part of their Sunrise Ceremonies. A Fish Fence Circle committee oversees all activity involving the fish weirs, and at Casino Rama, not too far away, the fish weirs are depicted for all to see in the large mural in the entranceway to the casino. Reports on the project have been filed with the appropriate provincial and federal authorities (MHCI 1997b, 1997c and 1997d). In addition, a paper summarizing the activities and results was presented at the 1998 Ontario Archaeological Symposium (Janusas and Mayer 1998).

STAGE 4 MITIGATIVE EXCAVATIONS

As summarized below, Stage 4 mitigative excavations were conducted on 4 sites: an Early Archaic period campsite in Cambridge, a multi-component Early to Late Archaic period campsite in Fonthill, a Middle Woodland period village in Port Franks, and the 19th century Johnson Rogers Homestead site in Milton. In each instance, impacts to the sites from construction could not be avoided.

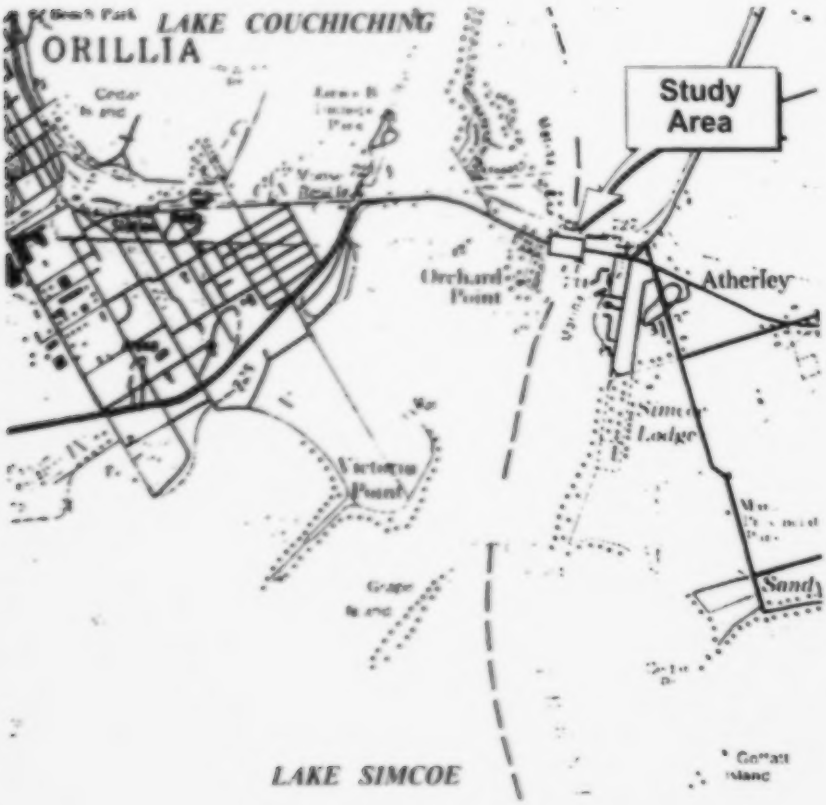

FIGURE 2. Location of the Atherley Narrows Study Area

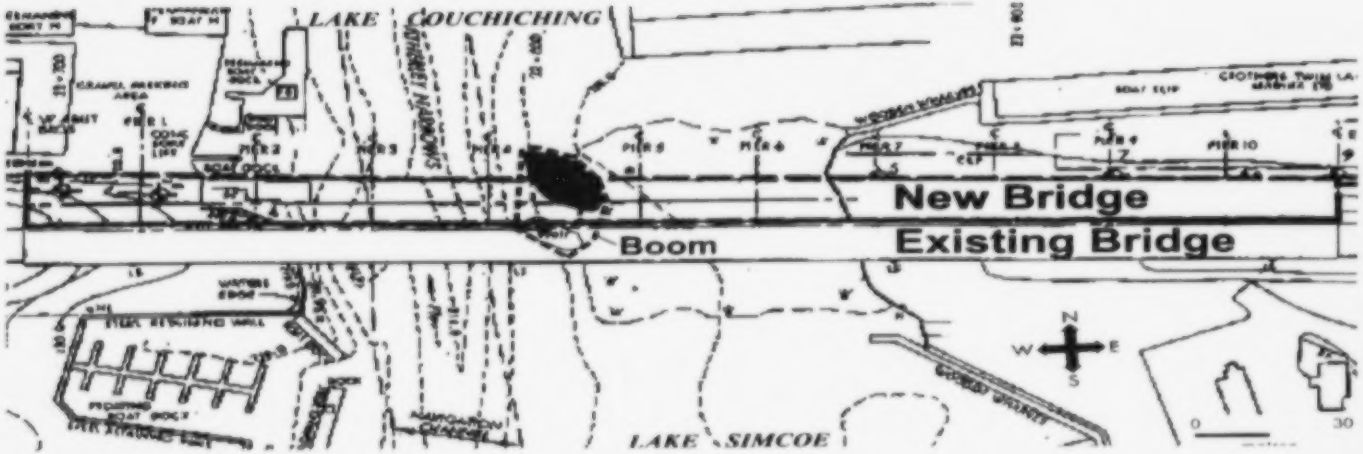

FIGURE 3. Parks Canada placed a protective boom around the remaining stakes near the construction area at Atherley Narrows.

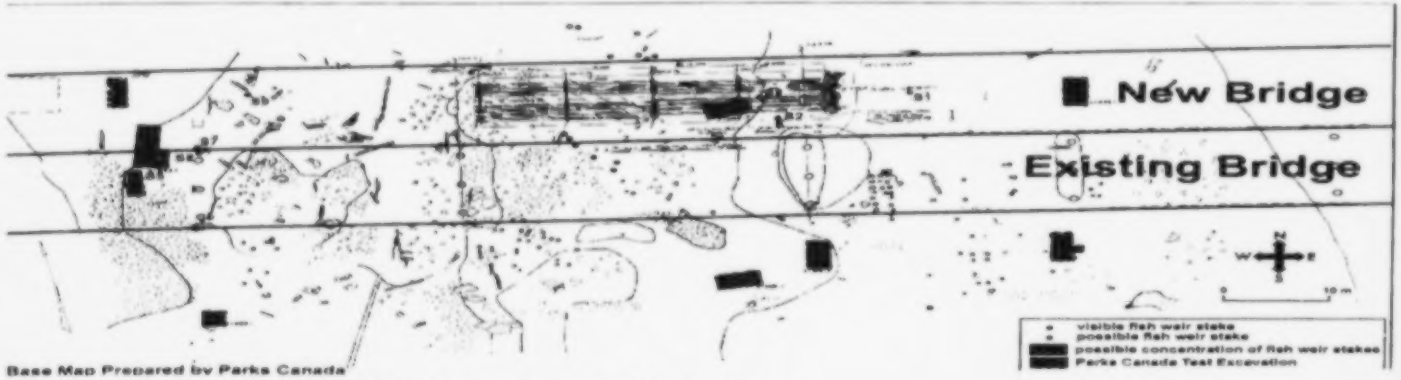
New Bridge
Existing Bridge
visible fish weir stake
possible fish weir stake
possible concentration of fish weir stakes
Parks Canada Test Excavation
Base Map Prepared by Parks Canada

FIGURE 4. Parks Canada Test Excavation areas at Atherley Narrows.

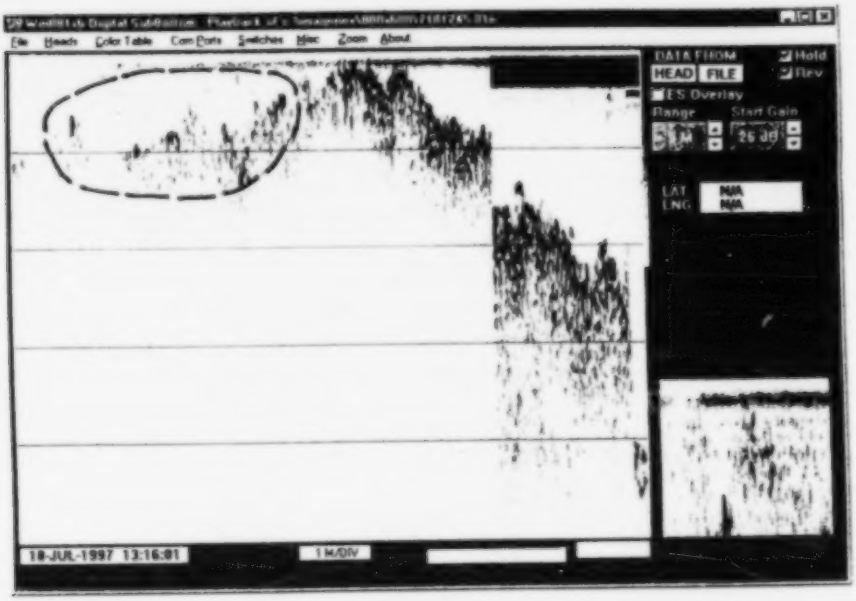

FIGURE 5. Sub-bottom profile scan of the S6 anomaly are at Atherley Narrows

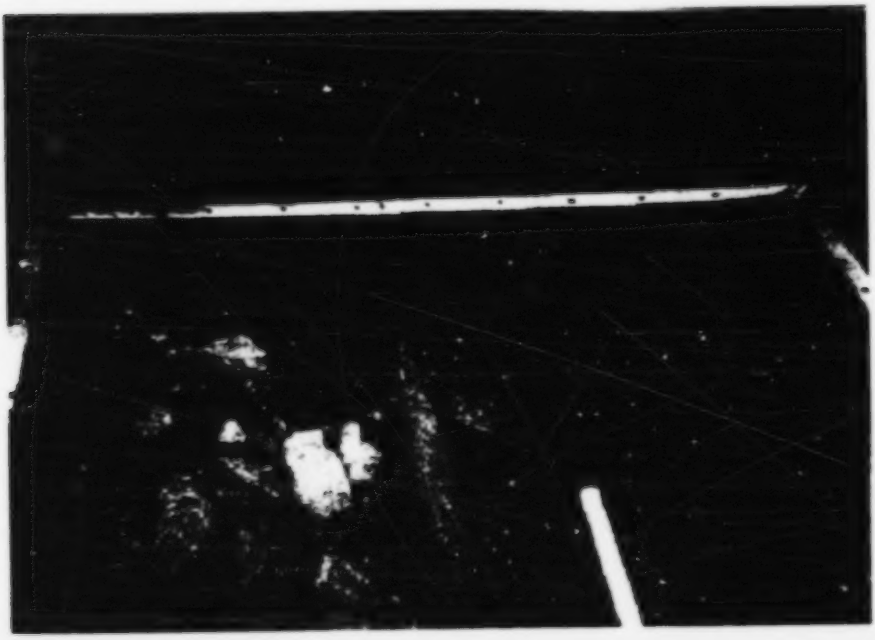

FIGURE 6. Atherley Narrows. Test unit 4 showing limestone rocks and pieces of wood(facing west).

FIGURE 7. Atherley Narrows. Planview Drawing of Test unit 4 showing the wood remains.

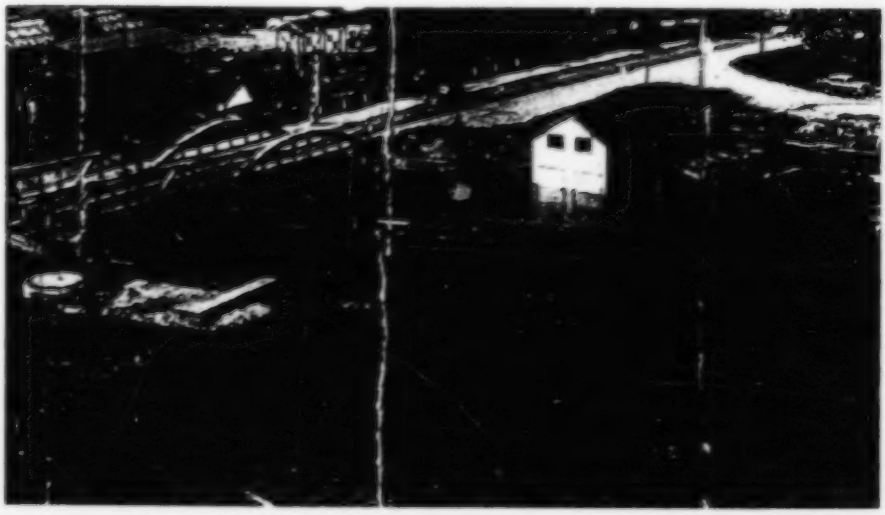

FIGURE 8. Atherley Narrows. 1951 photograph of study area.

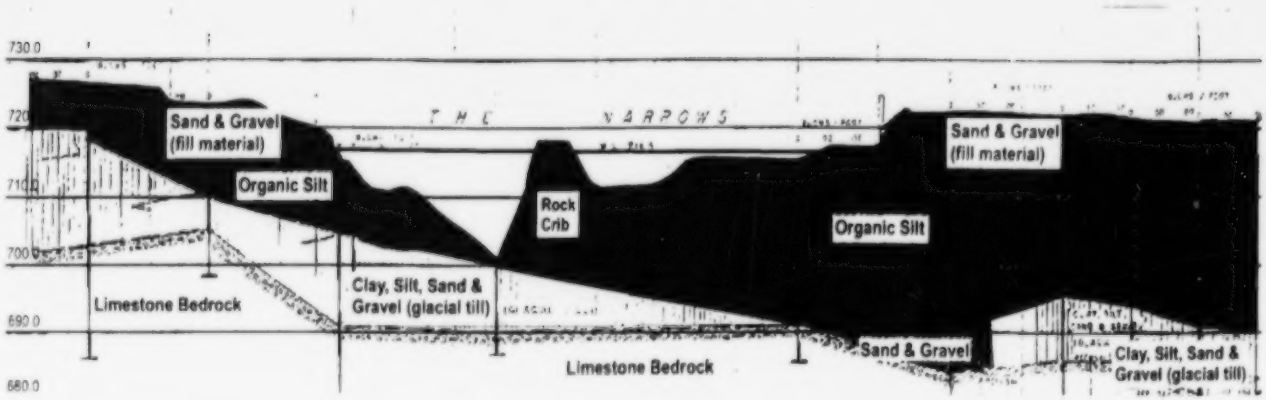

FIGURE 9. Atherley Narrows. Profile of study area.

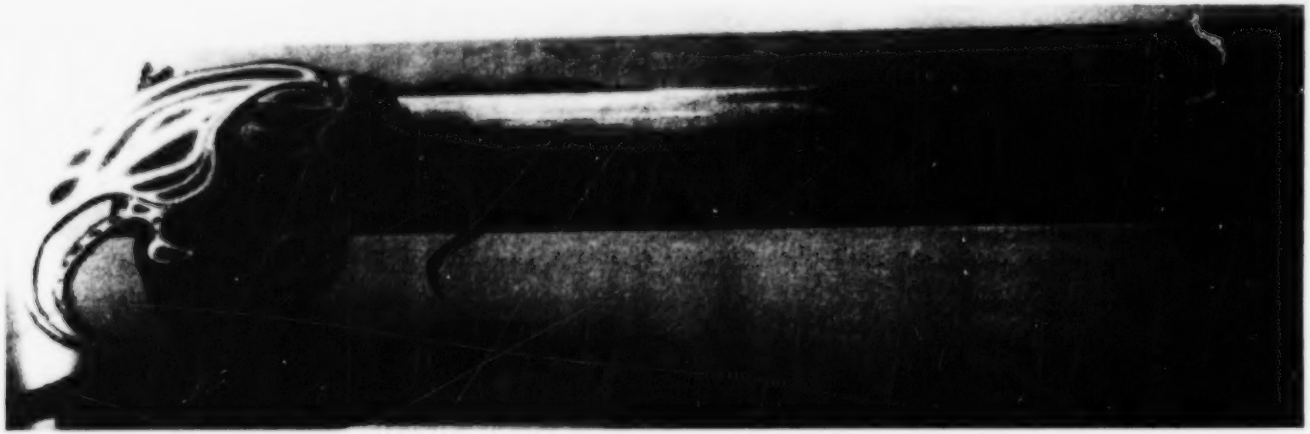

FIGURE 10. Mural at Casino Rama showing the Atherley Narrows

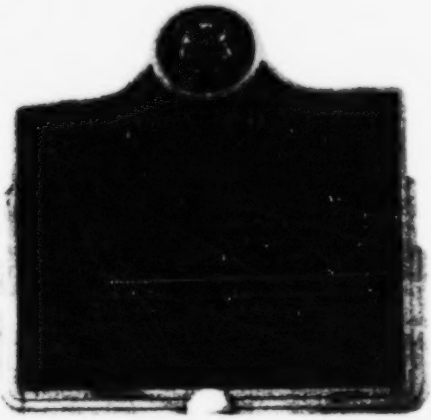

FIGURE 11. Provincial plaque describing the Atherley Narrows Fish Weirs.

EARLY ARCHAIC PERIOD CAMPSITE (AiHb-190), CAMBRIDGE

During an assessment survey for the West River Road trunk sewer outfall, an Early Archaic campsite (AiHb-190) was found on part of Lot 13, Concession 9 in the City of Cambridge, Regional Municipality of Waterloo (MHCI 1997e). At that time, 11 positive test pits were found within a 30 metre long segment starting approximately 15 metres west of the Grand River. Each of the test pits contained from one to five pieces of pre-contact Aboriginal chipping detritus. A subsequent Stage 3 investigation consisted of the hand excavation of seven test units (each one-metre square) along the centre-line of the outfall alignment where it transects the site location. Artifact recovery rates from these test units ranged between 1 and 45. Although no temporally and/or culturally diagnostic material or subsurface cultural features were found, 93 pre-contact Aboriginal artifacts were recovered.

The Stage 4 mitigative excavation within the outfall alignment (MHCI 1997f) was concentrated in the core site area with the highest artifact density as was indicated by the Stage 2 and 3 fieldwork. Thirty-eight one-metre square test units were hand excavated within a six metre wide by 15 metre long grid. The topsoil from an additional 34 square metres was mechanically removed from the periphery of the core site area within the outfall alignment to determine if any subsurface features were present.

The Stage 4 fieldwork recovered 1,227 pre-contact Aboriginal lithic artifacts including 1,185 pieces of chipping detritus, ten utilized flakes, seven bifaces, six cores, six pieces of fire-cracked rock, three projectile points, three scrapers, three charcoal samples, three animal bone fragments and a drill. Represented in the lithic assemblage are two types of chert: a banded tan/grey Onondaga chert and Selkirk chert. Although two subsurface cultural features were found during hand excavation of the test units, none was found during the mechanical removal of the topsoil. The two features were mapped, cross-sectioned and photographed. Feature 1 was oval in planview (80 centimetres by 65 centimetres) with a basin-shaped profile (30 centimetres) deep). The fill matrix was a greasy, black sandy silt soil bordered by a light brown silty loam. None of the 19 pieces of chipping detritus (13 Onondaga chert and six Selkirk chert) recovered is temporally or culturally diagnostic. Feature 2 was also oval in planview (135 centimetres by 110 centimetres) with a flat-bottomed profile (25 centimetres deep). The fill matrix was primarily a brown silty loam with lenses of black greasy soil and a mixing of the two soil types. None of the 39 Onondaga chert or the nine Selkirk chert recovered was temporally or culturally diagnostic. Both features were shallow and had been impacted by alluvial flooding episodes. However, due to the presence of lithic material within and above these features, it is entirely possible that these stains represent the bottom remains of pre-contact Aboriginal storage pits.

The results of the Stage 4 mitigative excavation confirm that the site was an area where flint knapping activities took place. The excavation was confined to the area to be impacted by construction distrubances. The east-west limits of the site are known, but the north-south limits are

unknown as they extend beyond the excavated area. The distribution of artifacts indicates that flint knapping activities were concentrated primarily along a low-lying ridge which gradually slopes down to the Grand River. The representation of each stage attributed to lithic procurement suggests that raw material was brought to the site and reduced to a degree of obtaining finished and/or semi-finished products. The presence of locally available Onondaga and Selkirk cherts possibly indicate different occupations. The base of a bifurcate-based projectile point from the Early Archaic period suggests the site may have been occupied as early as 7000 B.C. The drill, three scrapers and ten utilized flakes recovered indicate that the site was not used solely as a flint knapping station. These tools would have been utilized during other activities such as food preparation, or possibly the production of bone or wood tools.

CHERRY HILL SITE (AGGT-91), FONTHILL

The Cherry Hill site is a multi-component Early to Late Archaic period campsite found in 1996 during an assessment survey of the TCG Materials Fonthill Pit on part of Lots 5,6,7, and 8, Concession 7, in the Town of Pelham, Regional Municipality of Niagara (MHCI 1996a). Because the 35 test units (each one-metre square) excavated during the Stage 3 investigation indicated that the site exhibited high information potential for artifact recovery, an additional 71 test units were excavated during the Stage 4 mitigative excavation (MHCI 1997g). The ploughzone, designated as Level 1, was excavated, using the same grid as established during the 1996 Stage 3 investigation. Once the ploughzone had been removed to an average depth of 31 centimetres, the underlying thin layer of bright yellow sand was excavated in quadrants of one-metre square units. The four subsections were designated as A, B, C and D, starting in the southwest corner and moving clockwise around the unit. The sand layer, designated Level 2, averaged ten centimetres thick, and was taken out as a natural unit. Level 3, a layer of darker coarse grained soil that underlay Level 2, was also subject to investigation in one-metre squares.

Very few artifacts were recovered from Level 3, which was excavated an additional 25 centimetres deep on average. In total, 673 pre-contact Aboriginal artifacts were recovered during the Stage 4 excavations. These included three Kirk Corner-notched Horizon type projectile points from the Early Archaic period (c. 7500 to 6900 B.C.), two Lamoka type projectile points from the Late Archaic period (c. 2500 to 1800 B.C.), three bifacial preforms, a drill base, three scraperized flakes and 661 pieces of chipping detritus.

It seems likely that the occupations of the Cherry Hill site were quite brief, perhaps lasting no more than several days. The preponderance of secondary and broken flakes suggests that the early stages of biface had taken place elsewhere. It appears that these semi-finished bifaces were being finished at the site to replace projectile points during hunting. This hypothesis is supported by the presence of the two discarded projectiles with tip impact fractures, and the presence of the preforms broken in the process of thinning. The presence of the drill and three scrapers indicates that the site was not solely used as a flint knapping station, but also for other manufacturing activities such as food preparation or possibly other elements of bone or wooden tool production. The five heat altered flakes suggests that there was a hearth at the site.

The report considers in some detail the presumed sparse inhabitation of the lower Great Lakes area during the Early Archaic period. With very little known about the settlement and subsistence strategies of this period, the Cherry Hill site presents a welcome look at what appears to have been a briefly occupied logistically oriented camp. As more of these sites are studied, our understanding of this important time period should rapidly improve.

NORTHVILLE CRESCENT SITE (AHHL-38), PORT FRANKS

The Northville Crescent site was found during an assessment survey for a Union Gas Pipeline (MHCI 1993 and 1994). A Stage 4 mitigative excavation was subsequently conducted in 1997

FIGURE 12. Projectile points from the Cherry Hill Site (AgGt-61).

on that part of the site used to install a municipal waterline (MHCI 1998). One hundred and seventy-four test units (each one-metre square) were hand excavated on the east side of Northville Crescent. Shovels and trowels were used to excavate to a depth ranging from 30 to 60 centimetres below the surface to the interface of the topsoil with the culturally sterile subsoil, in a two-metre wide trench on the centre-line of the proposed water main alignment. Subsurface cultural features and post moulds were documented by scale drawings and photography, and excavated. Although the archaeological trench was wider than the anticipated construction trench, the construction excavation was monitored by a licensed archaeologist.

The mitigative excavation recovered 11,994 cultural artifacts. Lithic material dominates the artifact assemblage (76.73%). The ceramics, combining rim sherd, fragmentary rim sherds, body and fragmentary sherds make up an additional 16.09%. The next highest percentage category is fire-cracked rock (5.79%). Three other categories are represented in the assemblage: rough and ground stone (0.32%), faunal material (1.03%), and charcoal samples (0.03%). The lithic category consists of 98.90% debitage and 1.11% for tools. Kettle Point chert predominates (99.42%). Other chert types include Flint Ridge, Selkirk, Upper Mercer, Onondaga, a single piece of quartzite chipping detritus and a single piece of unidentified exotic chert. Ceramics consist of 99.38% body and fragmentary sherds and 0.62% rim sherds.

The typical soil profile on this site consists of a sod layer, followed by a thin gravel layer, then a variable depth layer of old forest floor. Beneath the forest floor was the subsoil which as essentially stone-free Plainfield sand. In all cases the excavation extended a minimum of 30 centimetres into

the subsoil. Only two settlement and/or subsistence features were noted, a hearth and a single post mould. No artifacts were present in these features. The diagnostic material recovered consists of three projectile points from three separate cultural periods (i.e. the Middle Archaic, Early Woodland and Middle Woodland), and Vinette I ware which is generally associated with the Early Woodland period but can extend into the Middle Woodland period. Faunal evidence indicating the harvesting of a small deer, suggesting that the site was occupied during the fall months.

Given that only a small portion of the Northville Crescent site has been excavated, the artifact assemblage from the Stage 4 excavations represents a narrow cross-section sample and may not fully reflect the true nature of the site.

JOHNSTON ROGERS HOMESTEAD (AJGW-260), MILTON

The Johnston Rogers Homestead site was discovered in 1996 during an assessment survey of part of the Highway 407 Right-Of-Way on the east half of Lot 2, Concession 9, Town of Milton (MHCI 1996b). A Stage 4 mitigative excavation was subsequently conducted (MHCI 1997). Prior to the start of the excavation, fill inadvertently deposited on approximately one-third of the site was mechanically removed. Sixty-six test units (each one-metre square) were hand excavated in a checkerboard pattern over a 20 by 25 metre area. The units were excavated in ten centimetre levels to permit vertical provenience or by lens/layer where stratigraphy occurred. At approximately 15 centimetres below the ground surface, the topsoil became wet and, in many cases, saturated at the topsoil/subsoil interface causing the units to fill quickly with ground water. After completion of the hand excavations, a gradall machine with a smooth edged bucket, under the supervision of an archaeologist, mechanically removed the remaining topsoil from the site to permit shovel shining of the exposed subsoil.

Cultural features were delineated, photographed and diagramed prior to excavation using traditional hand-tool methods. The test units were excavated to an average depth of 26.5 centimetres (range 15 to 45 centimetres). A total of 13,255 artifacts was recovered. These included metal (5,792), ceramic (2,557), faunal (2,538), glass (1,501), plastic and composite (239) and pre-contact Aboriginal lithic chipping detritus (4). The Euro-Canadian artifacts are believed to date from 1820 to the present. Although there is a large amount of 20th century material, it is a probable post-occupational contamination. The site appears to have an occupational date range of 1840 to 1890. This range is based upon the frequency of diagnostic artifacts in the assemblage, and not upon the frequency within each of these date ranges.

MAYER HERITAGE CONSULTANTS FUND

MHCI arranged with Professor David Smith at the Department of Anthropology, Erindale College, University of Toronto to have graduate students analyse artifact collections from the Fred Thompson site (AgGx-208) near Caledonia (MHCI 1996c) and the Silverman site (AbHr-5) near Windsor (MHCI 1996d). MHCI provided funds to be distributed among the students. Unbeknownst to MHCI, the students determined among themselves that these funds should be deposited with the University of Toronto along with such other funds as might from time to time be received to provide a small research funding capability. Indeed, contributions by others were made, and the university added further funds under its matching funds program. Again, unbeknownst to MHCI, Dr. Smith proposed to the university that this fund be known as the Mayer Heritage Consultants Fund and that the interest from this fund should be used to fund radiocarbon dating. MHCI very much appreciates the honour bestowed upon it by these very generous students.

MHCI MENTOR PROGRAM

In every corporation there is a broadly based pool of knowledge, wisdom and experience resident in its cadre of consultants and senior personnel. It is again upon these "old foundations" that MHCI bases its informal mentor programme. In 1996,

four people took advantage of this opportunity. Each was employed on a part-time hourly basis, completing real tasks of advantage to both themselves and the corporation. Personal work supervision is provided by senior personnel and consultants as part of their personal community service. Instruction provided by the mentors covers a wide range of topics, individually selected to add to the knowledge and experience of the individuals in the program. These topics provided work opportunity and mentoring in advanced computer applications, business accounting practices, entrepreneurial management, graphic design and execution, report research and writing. Of the four people in the program in 1996, one, trained in computer graphics and sign making, left with these skills to pursue his interests as a proprietor. The one in business accounting qualified for a position with a large accounting firm. The third continues to work in the electronic data base field and is pursuing her Master of Education (M.Ed.) degree to add to her B.A., B.Ed., and M.A. degrees. This person concurrently holds a full-time position with an area board of education, teaching and supervising an adult programme of computer education. The fourth person is pursuing his Ph.D. studies in history. Under the auspices of this mentoring program, he refined the use of electronic graphics in archaeology and heritage reporting. His primary contribution under this program has been the development and introduction of economic analyses, particularly related to small local communities and their patrons, into archaeology and heritage studies.

BYRON HERITAGE HOUSE, LONDON, ONTARIO

This summary report ends as it began, with the study of a structure built quite literally on an old foundation. Only rarely does an archaeology/heritage firm have the opportunity to investigate a building intimately connected with the seminal influence directing the transition of an early pioneer village to a totally modern city neighbourhood. MHCI had just such an opportunity when it investigated what is now quietly known as Byron Heritage House. This is a modern two-storey office building at 291 Boler Road in the Byron area of west London. At one time Ontario's largest Police Village, Byron was annexed by the City of London in 1961. So strong was the Byron sense of community, that a group of young Byron men at that time erected a "customs and immigration" inspection point on the main road into Byron. The prank was received in good-natured fashion by those being inspected, as a demonstration of community spirit.

Byron today still retains its own village identity, with a strong sense of community displayed in its commercial "downtown" area and in its social and service organizations. Byron, earlier known as Westminster Plains and Hall's Mills, is situated along the south bank of the Thames River downstream from London, and was noted for its clean, healthy air. Prominent London citizens located their summer homes along the river to escape the foetid summer air of the city centre. The Queen Alexandra Sanatorium for Consumptives was located in Byron overlooking the Thames river. It serves today as a children's research and treatment institute. Pure potable water was secured from the area's many springs and was stored in huge reservoirs on Hungerford Hill. It was on this hill, sometimes known as Snake Hill, but now known as Reservoir Hill, that an invading American force was repulsed in 1813.

In 1878, steamer service on the Thames River to downtown London was inaugurated. Later, service was provided by electric railway, and still later by motorcoach. From the early days, Byron had a number of significant commercial establishments including stores, hotels, taverns, distilleries, blacksmith, chair factory and tannery. When the building of the steam railroads bypassed Byron, much of the village's commercial activity was moved to London and Byron became a bedroom community.

Today, Byron has a good mix of retail, professional, service and commercial establishments in its central core, and many modern residential subdivisions, all largely the result of planning by one development firm. In the mid 1980s, they

FIGURE 13. Byron Heritage House

built upon the old foundations of an early Byron house, the modern two-storey office building that is still today, one of the most architecturally distinctive buildings in Byron. Located at 291 Boler Road, just to the north of the main Byron intersection, it adjoins a small municipal park and lies opposite London's well-known Springbank Park. It overlooks many of the early buildings of Hall's Mills, including the home in which Byron children were first taught, one of the early barns built of local chestnut, and homes associated with the mills located on the Thames River just to the north. Displaying design elements of the Brutalism school of architecture, it is a singularly distinctive small-building example of a style usually associated with large municipal and public buildings of recent construction.

MHCI conducted a background study of this unique building, researching both its history and its role in the Byron community. It was found that it was in this building that much of modern day Byron was conceived and planned by the housing construction firm of Eadie & Wilcock (later Wilcock Development). The Byron retail shopping centre, the sports grounds and such subdivisions as Warbler Woods and Warbler Ridge nestled around the wooded hills to the west were planned here. In 1998, Mayer Heritage Consultants Inc. plan to move its Head Office from the 1867 centennial Gregsten Cottage in downtown London to this building. In recognition of its present day purpose and its historic place in the development of Byron's modern heritage, the building is now known as Byron Heritage House.

REFERENCES

Cassavoy, Kenneth A.
1993. "Atherley Narrows Fishweirs: 1992 Project Report." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

Cassavoy, Kenneth A. and Richard B. Johnson
1977."Further Investigations at the Atherley Narrows Fishweir Site (70N3) near Orillia, Ontario in 1974." On file, Department of Anthropology, Trent University, Peterborough.

1996."Atherley Narrows Fishweirs: 1994/95 Project File." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto

Janusas, Scarlett E and Robert G. Mayer
1998."Underwater Archaeological Assessment and First Nation Concerns: Atherley Narrows Fish Weirs Site (BdGv-6)." In, Arch Notes, New Series Volume 3, Issue 6:12-19.

Johnson, Richard B., and Kenneth A. Cassavoy
1978."The Fishweirs at Atherley Narrows, Ontario." *American Antiquity*, Volume 43, Number 4, October 1978:697-709.

Mayer Heritage Consultants Inc.
1993."Addendum No. 2 to Archaeological Resource Assessment (Stages 1 and 2), Proposed Union Gas Pipeline, Grand Bend to Port Franks, Ontario" (revised 1994). On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1994. "Addendum No. 4 to Archaeological Resource Assessment (Stages 1 and 2), Proposed Union Gas Pipeline, Grand Bend to Port Franks, Ontario" (revised January 1994). On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1996a."Archaeological Assessment (Stages 1, 2 and 3), TCG Materials Fonthill Pit Expansion, Town of Pelham, Regional Municipality of Niagara, Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1996b."Archaeological Assessment (Stages 2 & 3), Johnston Rogers Homestead (AjGw-260), Highway 407 ROW Property S1-26." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1996c."Archaeological Assessment (Stages 3 and 4), Mount Hope to Cayuga Watermain, Regional Municipality of Haldimand-Norfolk, Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1996d. Archaeological Mitigative Excavation (Stage 4), Silverman Site (AbHr-5), Registered Plan 12R-13025, Town of St. Clair Beach, Essex County, Ontario. On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1997a."Cultural Heritage Assessment, Regional Road 1 / Nith River Bridge, New Hamburg, Wilmot Township, Regional Municipality of Waterloo, Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1997b."Archaeological Assessment, (Stages 1 and 2), Highway 12 / Atherley Narrows Bridge, Township of Ramara, County of Simcoe, Ontario (prepared by Scarlett E. Janusas and Robert G. Mayer)." On file, Ontario Ministry of Citizenship, Culture and Recreation.

1997c."Underwater Archaeological Assessment (Stages 1 and 2), Proposed Trestle and Rip Rap Construction Area, Highway 12 Bridge, Atherley Narrows, Simcoe County, Ontario (prepared by Scarlett E. Janusas and Robert G. Mayer). " On file, Ontario Ministry of Citizenship, Culture and Recreation.

1997d."Underwater Archaeological Assessment (Stage 3), Test Excavation of Area S6, Highway 12 Bridge, Atherley Narrows, Simcoe County (prepared by Scarlett E. Janusas and Robert G. Mayer)." On file, Ontario Ministry of Citizenship, Culture and Recreation.

1997e."Archaeological Assessment (Stages 1 to 3), West River Road Trunk Storm Sewer Outfall, City of Cambridge, Regional Municipality of Waterloo, Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1997f."Archaeological Assessment (Stage 4), West River Road Trunk Storm Sewer Outfall,

City of Cambridge, Regional Municipality of Waterloo, Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1997g. "Archaeological Assessment (Stage 4 of AgGt-91), TCG Materials Fonthill Pit Expansion, Town of Pelham, Regional Municipality of Niagara, Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1997h. "Archaeological Mitigative Excavation (Stage 4), Johnston Rogers Homestead (AjGw-260), Highway 407 ROW Property S1-26." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

1998. "Archaeological Assessment (Stage 4), Northville Crescent Site (AhHl-38), Town of Bosanquet, Lambton Co., Ontario." On file, Ontario Ministry of Citizenship, Culture and Recreation, Toronto.

Plowden, David
1974. *Bridges: The Spans of North America*. Viking Press, New York.

1997 CONSULTING WORK IN ONTARIO

L.R. PARKER

In 1997 the writer conducted one pre-development archaeological assessment. Exploratory investigations or salvage excavations were conducted at one additional site in partnership with Amick Consultants. This field work and research resulted in the registration of one new archaeological site.

ASSESSMENT OF PROPOSED SEVERANCE B28/97, CITY OF CAMBRIDGE

The proposed severance B28/97 in the City of Cambridge, Regional Municipality of Waterloo was assessed in December of 1997. The study of the 0.8 ha property resulted in the identification of no archaeological remains. However, adjacent to the subject lands an historic domestic site was observed. This site was designated the Blair-McDonald site (AiHc-208), and it represents a very late 19th Century homestead situated adjacent to the Grand River on the outskirts of the former village of Blair.

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CONSULTING ACTIVITIES UNDERTAKEN IN 1997 BY THE LONDON MUSEUM OF ARCHAEOLOGY

ROBERT J. PEARCE

INTRODUCTION

Between 1995 and 1997 the Museum completed a three year salvage excavation of a significant local landmark known as "Lobo House". Preliminary testing in 1995 and 1996 led to total site excavation in 1997. This report presents a summary of that work.

SUMMARY OF ARCHIVAL DATA

Local residents had long known about the existence of the ruins of a "stone castle" on vacant land outside of Kilworth, on Lot 8, Concession 1, Lobo Township, Middlesex County. Some documentation about those ruins, and ownership of the property by Captain John Matthews from 1822 to 1833 and then by Stephen Moore, Third Earl of Mount Cashell and his family from 1833 into the 1860s, had been provided in the Lobo Township history book published in 1960 (Lobo Township Heritage Group, 1990: *The Heritage of Lobo, 1820-1990*). Detailed archival data are presented in licence reports (London Museum of Archaeology 1995a; 1995b; 1997).

The original Crown Patent for Lot 8 was part of a grant of 1000 acres along the Thames River to Captain John Matthews in 1822. Following are some key facts about Matthews:

-born in England circa 1771
-served as an officer in the Royal Artillery for 27 years
-came to Canada in 1819 as an Aide to the Governor General, the Duke of Richmond
-based in the Niagara area for three years, 1819-1821
-upon retirement, granted the 1000 acre tract of land along the Thames River (December 22, 1822)
-during his move from Niagara to Lobo Township, his *entourage* included: "his family and servants consisting of nearly thirty persons...with six wagons, one cart, and twenty-four horses, a flock of sheep and some cows" (Heritage of Lobo 1990: 275).
-elected to the Legislative Assembly in 1824 and 1828.
-visited at his house in Lobo Township in 1825 by William Lyon McKenzie, who commented on the fine nature of Matthews' library.
-returned to England in 1830 and died there.
-Lobo Township house and property transferred to his son and daughter, who in 1833 sold the Lobo property to John Boyes, land agent for Stephen Moore, Third Earl of Mount Cashell.

Following are some key facts about Mount Cashell:
-Stephen Moore (1792-1883) was born in County Cork, Ireland
-inherited from his father and grandfather the titles of Earl of Mount Cashell, Viscount Mount Cashell of Cashell, Tipperary, and Baron Kilworth

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N6G 3M6

of Moore Park, County Cork
-attended Trinity College, Cambridge and received the degree of Master of Arts in 1812
-member of the U.K. Parliament from 1822 onward
-lived for some period of time in Switzerland and Germany
-while living in Frankfurt, married Anna Marie Wyse
-he and Anna had seven children: Lady Jane, Lady Helena Adelaide, Stephen (later Fourth Earl of Mount Cashell and Lord Kilworth), Charles William (later Fifth Earl of Mount Cashell), Lady Anna Maria Isabella, George Francis, and Lady Catherine Louisa
-the Mount Cashell holdings in Ireland totalled in excess of 60,000 acres, including the 1,000 acre family estate and Georgian mansion of "Moore Park" in Kilworth, County Cork
-in 1827 Mount Cashell began to acquire lands in Canada, with a mandate supported by the governance of Ireland to make those lands available to Irishmen who wished to emigrate
-by 1846 Mount Cashell had amassed 7,330 acres in various parts of Upper Canada, including the former Matthews parcel in Lobo Township. He later acquired all of Amherst Island (in Lake Ontario near Kingston) and facilitated its settlement by Irish emigrants
-Mount Cashell's agent John Cum[illegible]ins described "Lobo House" in 1836: "all the woodwork is of Black Walnut beautifully polished. A balcony surrounds the house on three sides, to which there is a sash door from the Upper Hall"; ...the house was "an excellent one of about the same size of Mr. Harrison's new building on the lower road" and "it is with the exception of the Governor's and one or two others in Toronto the best in the province" (Wilson 1994:54)
-Mount Cashell suffered financial difficulties and eventually sold or lost control of all of the land holdings in Ireland and Canada
-in the 1860s the Earl of Mount Cashell moved back to Ireland, and son George sold Lobo House and 900 acres around it
-Mount Cashell died in London, England in 1883, a "broken man with only thirty pounds to his name" (Wilson 1994:91).

There are no archival or historical data (nor archaeological data) to suggest anyone lived in Lobo House after it was abandoned in the 1860s. It fell into ruins and those ruins sat in a vacant field until the Museum began excavation in 1995.

Summary of Fieldwork

Prior to the start of this project in 1995, the ruins of Lobo House remained clearly visible on the surface: on top of a prominent grass-covered ridge overlooking the Thames River to the south and a seasonal tributary to the east there was a notable depression with segments of a fieldstone foundation sticking up in various places. The depression and remnants of the fieldstone foundation were roughly L-shaped, about 90 feet (27 metres) long east-west, 30 feet (9 metres) wide at the narrow end and 50 feet (15 metres) wide at the wide end. Within the eastern portion of the overall house depression there was a noticeable circular depression, about 7 feet (2 metres) in diameter, interpreted as a well.

Fieldwork in April 1995 was limited to the manual excavation of a few test pits around the exterior of the depression and within the depression. Later in 1995 a grid was established over the site area and several one-metre squares were excavated around the outside of the depression. Then Mr. Peter Bangarth was hired as Field Director, and he supervised a group of volunteers who excavated several more one-metre squares, primarily as a continuous trench in a west to east direction through the centre of the long axis of the house depression. This revealed the presence of an interior partition wall (fieldstone covered with a veneer of plaster) running west to east across the basement in the western half of the site, and a carefully lain fieldstone floor in the eastern half of the site.

Further fieldwork in 1996 involved excavation of trenches and other units to expose portions of the foundation walls and features (i.e. window casing, door opening, brick quoins on corners).

In all cases, excavation of one-metre

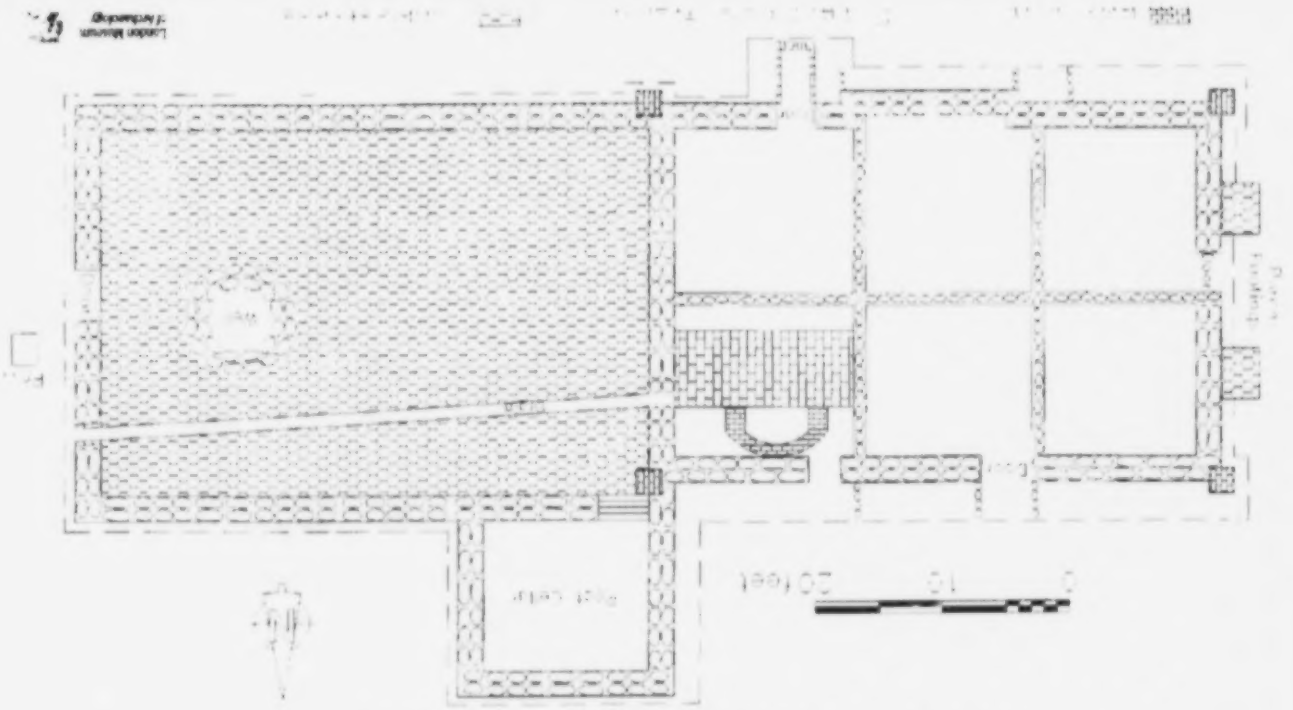


FIGURE 1. AfHi-185 Site Plan

squares and other units involved removal of vegetation and rocks or bricks, removal of soil by trowel, and screening of soil through hanging screens with 0.6 cm mesh. This process involved creation of two piles beyond the edge of the site: one pile for rocks and bricks and one pile for sieved soil.

Total site excavation between May 22 and September 11, 1997 involved a crew ranging in size from one to six, plus volunteers. Several areas of the site including the root cellar were manually excavated as distinct units. A backhoe was employed at various times to remove fill and segments of fieldstone walls to permit further manual excavation. The backhoe was also needed to clear fill and undisturbed subsoil away from the well, to permit us to manually excavate the well in profile. Backhoe stripping of topsoil from the outer perimeter of the foundation revealed a privy pit just outside the east wall.

ARCHITECTURAL FEATURES

The Lobo house site was built as two separate and distinct structures. The eastern half of the site was the original house built by Captain John Matthews. The western half of the site was an addition built by Lord Mount Cashell after he had purchased the property and its original house from Captain Matthews. The Mount Cashell addition was much more substantial in size, nature and architectural detail than the original Matthews house, and the western addition became the "main" house of Lord Mount Cashell. However, Mount Cashell and his family continued to use the original Matthews structure as part of what then became a very large house. Various lines of evidence lead to the conclusion that a large root cellar was in fact part of the original Matthews house, and that it continued in use as a root cellar throughout the duration of the Mount Cashell's occupation of the site. The houses had been built with strict adherence to Imperial measurements, so all measurements herein will be in feet and inches.

The original Matthews house was a basic rectangle measuring 45' west to east by 33' north to south, with fieldstone foundation walls 2' thick. Adjoining the northwest corner of this structure was a square root cellar, 17' by 17' (outside dimensions), with 2' thick fieldstone foundation walls. Thus, the original Matthews house was "L"-shaped.

The compacted dirt floor of the root cellar was 4' deeper than the cobblestone floor of the main house, with crude stairs 4' wide constructed of fieldstone leading from the main house down into the root cellar. The only apparent opening through the outer walls of the house was a single door in the east wall, was 3'6" wide.

The foundation walls of the original Matthews house were entirely fieldstone. For the most part, the stones were natural ones, not dressed or modified. However, there were a few instances where deliberately dressed stones were used, particularly at the four corners.

A single privy pit was encountered outside the eastern end of the original Matthews house. Based on the discovery of an 1828 George IV sixpence, we conclude the privy dates to the time period that Matthews occupied the site.

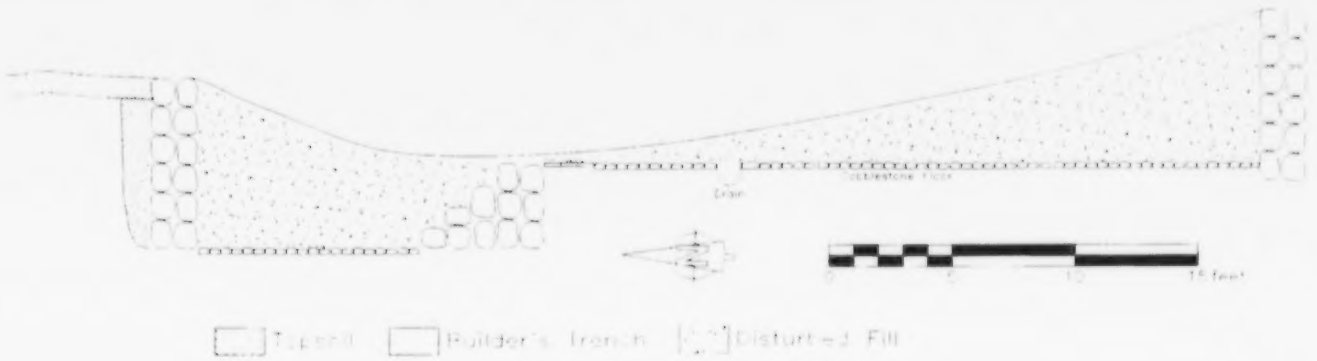
The western half of the Lobo House site consisted of a large (45' west to east by 30' north to south) western addition onto the original Matthews house; the addition was built by, and occupied by, Lord Mount Cashell and his family. The addition rested on 2' thick fieldstone walls supported in six places by exterior buttresses, also constructed of fieldstone.

All four corners of the addition had brick quoins, consisting of 12 courses of yellow brick laid in alternating directions, employing both full bricks and half bricks.

The south wall of the addition was not straight, but rather contained an outward jog associated with a 3' wide door and a set of exterior stairs which had been carefully constructed with bricks, fieldstone and wood.

A ground-level door was located in the centre of the west wall. Exterior, rectangular footings (4' by 3') made of fieldstone on either side of that door probably supported a porch on the west elevation of the addition.

The north wall of the addition contained one door and one window. The window opening had been made using a combination of natural fieldstones, dressed fieldstones, and bricks. The



London Museum of Archaeology

FIGURE 2. AfHi-185 Profile of Root Cellar and House

FIGURE 3. View east across site at beginning of excavation in 1995.

FIGURE 4. Brick lentil over window in fieldstone foundation, north elevation of house.

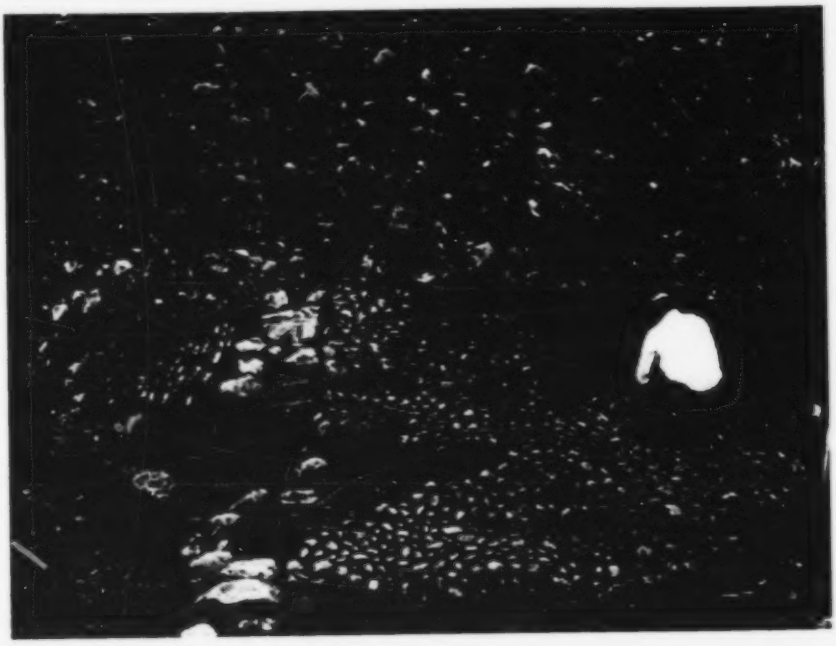


FIGURE 5. Jim Esler exposing cobblestone floor. View north. Root cellar to north, red brick fireplace and yellow brick hearth to west.

window opening was basically rectangular for the two sides and bottom, with an arched or convex top. The arched top was a yellow brick lintel.

Mount Cashell's addition had one interior partition wall running west to east and two sets of walls running north to south, creating six separate rooms. All of the walls were coated with a plaster veneer (painted yellow).

A large red brick fireplace abutted the north wall in one of the rooms, and there was a massive red brick hearth in front of the fireplace.

A drain, lined with a combination of bricks and dressed fieldstones, ran eastward from just east of the fireplace, across the original Matthews house, through the east wall. Since it was built down in the floor and exited to the exterior of the house, it must have been used to drain "grey" water out of the kitchen; this might be the first or earliest documented example of "indoor plumbing" yet found in Middlesex County.

A large well, over 6' in diameter at the top and completely lined with fieldstones to a depth of 12', was located near the centre of the original Matthews house, but we speculate it dates to the period when Mount Cashell occupied the site.

ARTIFACTS

Occupation of the site for a 40 year period by two titled gentlemen and their families and support staff naturally resulted in the use and discard of large quantities of material, reflected in the vast artifact assemblage.

The root cellar alone yielded 1011 analyzable ceramic rim sherds, dominated by Blue Edged, Transfer Printed, Stamped and Sponged wares (yielding a Mean Ceramic Date of A.D. 1856).

A majority of the artifacts are typical domestic refuse items, but there were a few notable

specimens. Specific maker's marks on several sherds indicate a dominance of dinnerwares and tea wares from Staffordshire, England, but a few pieces came from factories in Yorkshire and Glasgow. A few pieces of fine china and porcelain were acquired from Germany and France; some decorative glass may also be of German origin. Most of the white clay pipes were Scottish (Murray and McDougall, Glasgow) or Canadian (Henderson, Montreal), but there was one French (Fiolet) stem. Most of a #4 pickle crock made by Morton, Brantford, Canada West was recovered, as was a crockery marmalade jar from Dundee, Scotland. A unique button was manufactured in London, England by Firmin & Sons, but re-stamped by a clothier (Daniels & Co.) from the town of Fermoy near Mount Cashell's birthplace in Ireland. Several pieces of decorative metalwork were found, including three boot jacks in the shape of the letter M (for Matthews, Moore or Mount Cashell).

CONCLUSIONS

The Lobo House site began in 1821 or 1822 as a modest structure built for and occupied by Captain John Matthews and his family. In 1833 the house was acquired by Lord Mount Cashell; the house was greatly expanded into a large stone "castle" and he and his family lived there until the 1860s.

Mount Cashell's house had one large kitchen/cooking/food preparation area in the basement, equipped with a large fireplace (with spit). The house also featured an interior, year-round water supply (the well). Other rooms in the basement might have been store rooms and/or servant's quarters, with the titled Mount Cashell and his family occupying rooms on the main floor above the basement.

The fieldstone basement walls were mostly intact, but the basement depression was literally filled with thousands of fieldstones. The quantity of rock leads to the conclusion that the above-ground structure of Mount Cashell's house was two stories in height, constructed entirely of stone. The size and nature of the stone house, plus certain of its architectural features (i.e. brick quoins and lintels), lead to the conclusion it was designed and built by noted local architect and builder Robert Flint (1784-1859).

REFERENCES

Lobo Township Heritage Group

1990. *The Heritage of Lobo: 1820-1990.* Published by Lobo Township Heritage Group, R. R. # 2 Ilderton.

London Museum of Archaeology

1995a. "Archaeological Assessment of "Kilworth West" Subdivision, Draft Plan of Subdivision 39T-93007 Kilworth, Lobo Township, Middlesex County." Prepared for Bilmar Developments Corp. Submitted to Ontario Ministry of Citizenship, Culture and Recreation.

1995b. "Summary of 1995 Investigations at Three historic Sites and One Prehistoric Site, "Kilworth West" Subdivision, Draft Plan of Subdivision 39T-93007 Kilworth, Lobo Township, Middlesex County. "Prepared for Bilmar Developments Corp. Submitted to Ontario Ministry of Citizenship, Culture and Recreation.

1997. "Licence Report for 1995-1996 Investigations at Historic and Prehistoric Sites Within "Kilworth West" Subdivision, Draft Plan of Subdivision 39T-93007, Kilworth, Lobo Township, Middlesex County." Prepared for Bilmar Developments Corp. Submitted to Ontario Ministry of Citizenship, Culture and Recreation.

Wilson, Catharine Anne

1994. *A New Lease on Life: Landlords, Tenants and Immigrants in Ireland and Canada.* McGill-Queen's University Press, Montreal & Kingston.

CONSULTING ACTIVITIES OF SETTLEMENT SURVEYS LIMITED IN NORTHERN ONTARIO

JOHN POLLOCK

Settlement Surveys Limited is an archaeological consulting firm incorporated in 1979 with its main office in New Liskeard, Ontario. Regional representatives are Mike O'Connor at Sault Ste. Marie and Mike McLeod at Thunder Bay. Dr. John Pollock is the manager of the firm that undertook twenty projects during 1997 in the Mattawa, North Bay, Sudbury, Sault Ste. Marie, Temagami, and Lake Timiskaming areas. Two staff members and one student were involved in these activities. One of the more interesting projects in the North Bay area is described below.

1997 EXCAVATION OF THE MULTI-COMPONENT LA VASE RIVER SITES: NORTH BANK SITE, CBGU-1, AND LARONDE TRADING POST, CBGU-5, NORTH BAY, ONTARIO

The La Vase archaeological sites are located in an urban setting within the City of North bay and therefore, the public archaeology component of the project was very important.

Excavations took place during the months of June through October 1997. Project personnel included site supervisor Dr. John Pollock, Archaeological coordinator Mike Barnes, and Historical researchers/programmers Cheryl Hollidge, Tammy Lott, Beverly Cunningham, David Woolven, and Wendy Thorne. All were involved in both archaeological excavations and educating the public in archaeology, site history and prehistory. Mike Barnes and Jonathon Ferguson along with John Pollock produced the final site report from which this article is derived (Settlement Surveys Ltd: 1998).

One of the LaVase Heritage Project's goals was to inform and educate the public on various archaeological topics.

Through activities and programs, the 1997 La Vase Heritage Project Staff interacted with more than 1,750 interested persons, including casual tourists and "passers-by." Interested parties participated through pre-arranged visits for school classes (from grade school to university classes) plus local Senior Citizen groups, Adult Learning Facilities and other Clubs.

PREVIOUS EXCAVATIONS AT CBGU-1 AND CBGU-5.

The first archaeological work undertaken at the La Vase River was in 1961 when J.V. Wright discovered the North Bank site (CbGu-1). John Pollock and Peter Bullock located and registered the prehistoric and historic La Vase Island / La Ronde trading post site (CbGu-1) in 1992 (see Figure 1).

The first formal excavations at the two sites were

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undertaken by Archaeological Services Incorporated in 1995. They concluded that the site was a prehistoric camp occupied during the Late Woodland period, circa 1200 AD and later. In regards to the Laronde Post or the La Vase/Bothwell Island Site (CbGu-5), they concluded that the La Vase Island Site represented a rich multi-component zone with evidence of continuous occupation from the Middle Woodland period (ca. 500 BC) to the present (ASI 1996:156).

The second set of excavations occupied six weeks during the spring of 1996, when fifteen students from Laurentian University attended an archaeological field school under the supervision of Dr. Patrick Julig.

In the summer/fall of 1996, Ryan Defonzo from the Corporation of the City of North Bay undertook excavations on the northern boundary of Site CbGu-1 (Defonzo: 1996).

1997 ARCHAEOLOGICAL RESEARCH GOALS AND QUESTIONS

The main goal of the 1997 LaVase Heritage project was to provide for the systematic recovery and recording of artifacts and features at the two sites, in order to answer some outstanding archaeological and cultural questions. These questions involved the age and duration of cultural occupations (components) at the two sites; and details pertaining to vertical and horizontal stratigraphy.

STUDY RESULTS, NORTH BANK SITE - C B G U - 1

The ethnographic and oral history records of the Nipissing First Nation make them the most obvious candidate for the prehistoric occupants of this site along with other nearby Algonquin groups. Information concerning dates of occupation for the North Bank site are discussed below, based on artifacts recovered from the 1997 excavations.

Ceramic vessels recovered during 1992 and 1997 highlight Iroquoian pottery types Iroquois Linear (c.1100-1350), Black Necked (c.1350-1687), Huron Incised (c. 1350-1687), and Lawson Incised (c.1500-1687). This progression of dates shows a seasonal but frequent occupation from A.D. 1100 to the late fur trade era (mid -1800s) along with earlier but less intensive use of the site.

The lithic assemblage from North Bank reflects a conservation of raw materials, and a lack of quality local stone for tool production. Quartz and quartzite tools, most likely quarried locally, were fashioned as small scrapers as well as a possible quartz projectile point. Quartz debitage indicate a lithic reduction took place utilizing locally obtained stone materials.

Also, recovered within the lithic assemblage was Hudson Bay Lowland chert and Knife River Flint. The examples of Knife River flint represented bipolar core primary flakes fashioned as "knife blades" and one core of unknown chert type was identified as a "nose-head scraper." The discoveries of these tools suggest non-local trade in raw stone. Also, since no secondary debitage was found, non-local materials were probably not reduced at the North Bank site.

This use of quartz was also common on Huron sites such as Methodist Point, and may represent cross-cultural technological exchange. The use of quartz tools in addition to specific pottery types suggest the Nipissing may have shared these technologies with the Huron, during their winter occupation in Southern Ontario.

Native copper, most likely from the Lake Superior region, was represented by one hammered fragment. The flattened nature of the specimen shows that it was in the first stage of production into a tool.

Recoveries of European trade goods were low in numbers from the North Bank site. Although historical records suggest Champlain and company travelled through the LaVase River in the early seventeenth century, there is an unexplained low frequency of related trade artifacts. However, some potential 17th century early trade artifacts are two spall gunflints (c.1650-1770), and clay pipe specimens that have morphological characteristics that may date to the late seventeenth century. There is also the possibility of a nineteenth century occupation dating to the mid 1800s as percussion caps, machine cut nails and daub were recovered during the 1997 work.

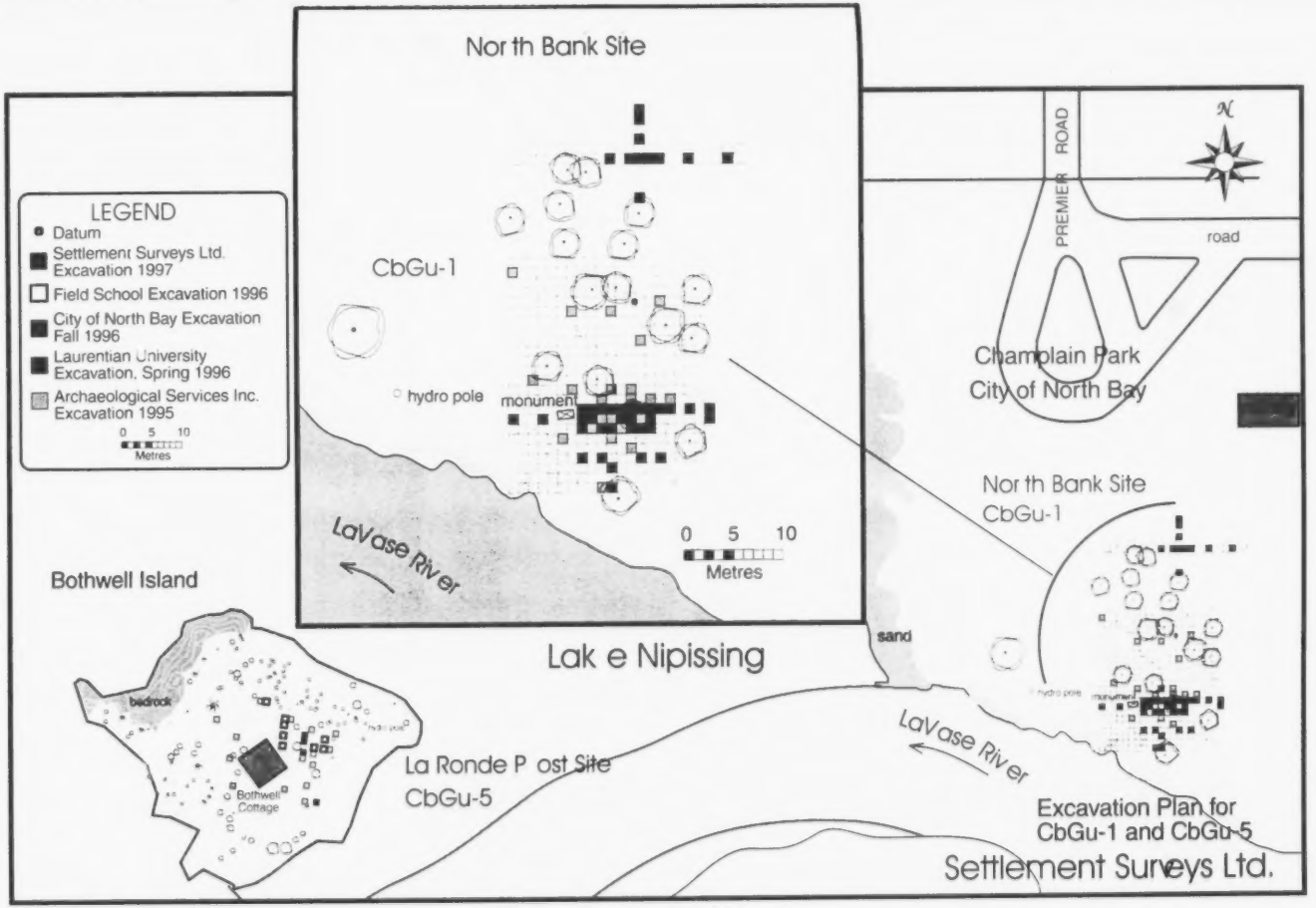

FIGURE 1. Excavation plan

A special note is warranted concerning disturbances at the North Bank site. These are widespread and exist in varying degrees over the entire site. In some units, the original stratigraphy has been almost completely altered and destroyed, in others it has been impacted but remains relatively intact in discontinuous mottled lenses or dark organic layers.

In addition, modern artifacts such as bottle caps have been found below the lowest cultural layers showing the haphazard and random nature of the intrusive disturbances at the site. Overall, the area south of the stone monument may be the least disturbed portion of the site.

STUDY RESULTS, LARONDE TRADING POST, CbGu-5

The LaRonde Post is located on Bothwell Island Site at the mouth of the La Vase River. It is approximately 60 meters off the shore of the north bank (Figure 2). It is both a major prehistoric site and the location of the "Fort La Ronde" or La Ronde Trading Post of the Northwest Company. The post is believed to have been used for about two decades in the early 1800's.

In the mid-eighteenth century, the fur trade was booming and it is believed that this route through the La Vase River was the main travel route-- "the Highway 401 of the fur trade"--for about one hundred and fifty years from about 1672 to 1821. After the North West Company merged with the Hudson's Bay Company, the route gradually fell into disuse because the Hudson's Bay Co. used their long-standing northern supply routes.

The 1992 (Pollock & Bullock in Settlement Surveys 1992) and the 1997 archaeological investigations at the LaVase / Bothwell Island Site yielded 5,934 artifacts. The variety of Native and European finds recovered provides some interesting insights into past prehistoric and historic events in the area. The artifacts help in reconstructing past life-ways of the Nipissing First Nation. The cultural interaction between Aboriginal people, Europeans and the expansion of the fur trade are also represented in the archaeological record. Historical records also indicate that during the period 1800 to 1821, what is now Bothwell Island was the home of the LaRonde post. The 1997 archaeological research helped confirm that the LaRonde post was in fact located on the Island. Finally, from the decline of the fur trade in the area after 1821 to the island's present-day use as a cottage lot, the more recent history of the site is also preserved in the archaeological record.

The Aboriginal ceramics recovered from Bothwell Island in 1992 and 1997 are consistent with the Ontario Iroquoian pottery tradition. In particular, the ceramic evidence points to an association of the site inhabitants with the Northern Division of the Huron-Petun branch of this tradition. This affiliation with the Ontario Iroquois pottery tradition strengthens rather than weakens the attribution of this site to the Nipissing, an Algonkian speaking people. Comparison with other Algonkian groups and the ceramics recovered from the campsite at Frank Bay have shown that the Nipissing were active participants in the Iroquoian tradition. Close trade and political association between the Nipissing and the Huron/Petun are, furthermore, documented in ethnographic and archaeological records. The occurrence of Iroquoian, and more specifically, Huronian, pottery types should therefore be expected on Nipissing sites such as CbGu-5. While we cannot rule out that some proportion of these vessels may have been deposited by Huron trading parties camped at the site while passing through the portages, circumstantial evidence (e.g., lithics) shows that the prehistoric ceramic and lithic component of CbGu-5 was Primarily Nipissing and other Anishnabek /Algonquin groups.

The possible chronological range for the 1992 and 1997 North Bank Native ceramics spans from c. 1350 to 1687, within the Terminal Woodland Period. Excavation on Bothwell Island by ASI in 1995 recovered a Middle Woodland vessel, which could date to as early as A.D. 400. In combination with the CbGu-1 ceramics, a continuity of the use of the area can be demonstrated for the past 2,000 years.

The prehistoric trade and contact of the LaVase River area inhabitants with other regions is further supported by the lithic finds. Eighteen

chert flakes were recovered from Bothwell Island, but chert is not locally available; three of these flakes have been tentatively attributed to the Gordon Lake chert source, only found in two locations - along the North shore of Lake Huron and at Smoothwater Lake near Temagami, Ontario.

The 1992 and 1997 field seasons also helped to throw some light on the spiritual aspects of Nipissing culture. The two Native clay pipe stem fragments exhibit particular care in their manufacture, including burnishing on both examples. Moreover, the bore of one stem was formed around a braided cord, perhaps of sweet grass. These painstaking methods explain the importance of the smoking pipe in traditional Native life and reflects scared considerations. A small piece of catlinite carved with the image of *Mishipizheu* (horned lynx) further reflects the spiritualism of the Nipissing people. The presence of a carving of this water Manitou at the site may be related to its position along such an important canoe route.

The earliest evidence for contact between Natives and Europeans recovered from the LaVase Island Site in 1992 and 1997 includes European spall gunflints and clay smoking pipes, which date to as early as 1650 and 1660, respectively. In 1996, Laurentian University found the oldest European material yet found on the site, a bead dated from about 1630 to 1650. The beads from the 1992 and 1997 field seasons attest to the continuity of the fur trade at the site, from one example dated to between 1700 and 1750 to seed beads traded after 1800.

In fact, most artifacts recovered from Bothwell Island in 1992 and 1997 can be linked to the fur trade period. Some artifacts may be associated with voyageur campsites on the island, such as spall (1650-1770) and French (1740-1800) gunflints. Many artifacts from the fur trade period could be attributed to either camped voyageurs or the LaRonde Post occupation of 1795 to 1821. Most smoking pipes, for example, date during the 1750-1850. The European ceramics are most consistent with the pearlware-dominated horizon of about 1780 to 1830, although vessels from later in the nineteenth century were also recovered. A decorated brass button dates to the early 1800s.

Other finds, however, point more conclusively to the presence of the LaRonde Post on Bothwell Island; foremost among these is the architectural class of artifacts. Unlike at ChGu-1, the majority (80.8%) of nails on the island are either wrought or machine cut, showing that most construction activity on the island (omitting the present Bothwell cottage) took place before 1890. Moreover, the six recovered wrought nails were most likely manufactured prior to c. 1830. Similarly, the flat window glass dates to before 1845. Daub has been found in considerable quantities over the course of successive excavations; this material points to the chinking of a wooden building or the construction of a wattle and daub structure such as a chimney. A possible LaRonde Post foundation timber was uncovered in 1996 by Laurentian University. The 1997 excavations produced a wrought or very early machine cut nail, which dates before 1830 on the extension of the 1996 timber in an adjacent unit. This confirms that the structure located by Laurentian University in 1996 on Bothwell Island is part of the LaRonde Post.

It is often difficult to distinguish between those artifacts associated with the LaRonde Post occupation as opposed to other fur trade activities on the site. A few artifacts, however, can be attributed to the post phase with relative confidence. The blank token, for example, was most likely used as a trading counter and probably within a post setting. Many faunal remains were found in association with a hearth, which has been attributed to the La Ronde phase, based on its associated finds. These remains include pig and dog teeth, showing that some domesticated animals were kept at the site. This fact compliments the knowledge that the La Ronde family tended a potato patch, suggesting that pigs were kept for food and dogs for hunting. We can further speculate that the presence of pigs confirms a year-round occupation of the post.

Life at the La Ronde Post was typical for the early 1800s fur trade; native technical knowledge, local raw materials and country food were combined with imported goods and technology.

FIGURE 2. Artists Sketch (by John Grubber) of the La Ronde Trading Post at the mouth of the La Vase River, early 1800's with some artifacts recovered from the 1997 Excavations.

Hunting and fishing were supplemented with limited farming (*i.e.*, potatoes and pigs) and perhaps also imported food. While it is not yet possible to reconstruct the architectural form of the LaRonde Post, it can be concluded that this structure was constructed of wood, was chinked with daub and included some windows and a wattle and daub chimney. It sat on a foundation of flat stones with timber sills. As a family home, this small but comfortable building was likely furnished with the typical items of Canadian frontier life, of which ceramics are here the best example. Serving the dual functions of a commercial establishment and home to a large family, the La Ronde Post must have been the scene of busy year-round activity.

Following the merger of the Northwest Company with the Hudson's Bay Company in 1821, the La Ronde Post was moved from what is now Bothwell Island to Garden Island at the mouth of the Sturgeon River on Lake Nipissing. The archaeological record has confirmed this, as after 1821 the artifactual evidence for the occupation of the site decreases. For example, there is a conspicuous lack of late 1800s examples within the smoking pipe assemblage and a corresponding paucity of ceramics from the same period. This phenomenon is thought to reflect the diminishing importance of the La Vase River portages as a highway for the fur trade, following the merger of the Northwest Company with the Hudson's Bay Company. The removal of the post to Garden Island and the decrease in traffic along the river together contributed to the precipitous decline of archaeological evidence for the late fur trade at ChGu-5.

Despite this diminished importance after the removal of the post, Bothwell Island nevertheless did yield some artifacts from later in the nineteenth century. Two percussion caps found on the site most likely represent use of the site during the period between about 1830 and 1860. The Perry Davis Painkiller bottle dates to after 1854, but may represent only a transient use of the site. The evidence of architectural activity in the second half of the 19th century, however, is inconclusive. The recovered machine cut nails point to construction on the island between about 1800 and 1890, while

the wire nails show that such activity took place after c. 1890. Of the machine cut nails, those with iron fibres running parallel to the shank (e.g., one of 97-300) probably date to the period from c. 1830 to 1890. However, it cannot yet be determined what type of structure, if any, existed on the site between the LaRonde Post and the present-day Bothwell cottage.

The recent history of the LaVase Bothwell Island Site shows that it is much less disturbed than the North Bank Site where extensive landscaping and other disturbances have taken place. The modern Bothwell family cottage appears to have been constructed on the surface, probably leaving subterranean and earlier archaeological features largely intact. The presence of waterworn pipe fragments suggests that deposition may have taken place on the island, whether naturally on the former riverbank or through the possible (but unconfirmed) dredging of the boat channel at the river mouth. Most of these waterworn pipes, however, were found along the east beach. The stratigraphy of the La Vase Island Site occurs at a relatively uniform depth and is much less disturbed than that of the La Vase North Bank Site.

In conclusion, the qualities of Bothwell Island and the La Vase North Bank that first attracted Native Peoples, explorers, fur traders and cottagers to the site can be appreciated today by visiting the site, which is within the present day City of North Bay. During recent years there have been annual "archaeological digs" on the sites and these may continue for many years with the eventual establishment of a permanent archaeological interpretive and educational facility located near the sites.

REFERENCES

Archaeological Services Inc.

1996 *The La Vase Archaeological Project.* Report submitted to the Corporation of the City of North Bay, Ontario.

Defonzo, Ryan

1996 *La Vase North Bank (ChGu-1) Fall 1996 Excavation Report.* Report submitted to the Corporation of the City of North Bay, Ontario.

Settlement Surveys Ltd. (Dr. John Pollock)

1992 *An Archaeological Assessment of the Parks Creek Watershed Flood Damage Reduction Project.* Prepared for the North Bay - Mattawa Conservation Authority.

1994 *Archaeology. Sections 2.6 of the Chippewa Creek Watershed Management Study.* Prepared by Proctor & Redfern Limited for the North Bay - Mattawa Conservation Authority and the City of North Bay.

1996 *Heritage/archaeological Component- La Vase River Watershed Management Study.* Prepared for the North Bay - Mattawa Conservation Authority, North Bay, Ontario

1998 Final Report, 1997 Archaeological Excavations, La Vase Heritage Project. Undertaken for The Corporation of the City of North Bay.

SUMMARY OF 1997 ARCHAEOLOGICAL INVESTIGATIONS BY D.R. POULTON & ASSOCIATES INC.

DANA R. POULTON AND CHRISTINE F. DODD

The archaeological consulting firm of D.R. Poulton & Associates Inc. is based in London and operates under the direction of Dana Poulton. In addition to three permanent staff members, 11 people were employed by the firm on a seasonal basis in 1997.

The firm conducted 25 separate archaeological resource management studies in 1997. These involved nine separate counties and regional municipalities, from Middlesex County east to Durham Regional Municipality, and from Lake Erie and Lake Ontario northward to the north shore of Lake Superior.

Three of the projects were limited to Stage 1 background studies; the remaining 22 involved both background research and field work. The latter included 16 projects involving Stage 2 field assessment, 11 projects which entailed Stage 3 test excavations, and four projects which involved Stage 4 mitigative excavations.

Altogether, 92 archaeological sites were investigated in 1997. Eighty-three represent previously unknown sites discovered by the firm: 33 of these were registered in the course of investigations by the firm; the remaining 50 were not considered to be significant enough to register. A Stage 2 level of assessment was conducted on 87 sites by D.R. Poulton & Associates in 1997. More extensive Stage 3 test excavations were carried out on 13 sites, and full Stage 4 mitigative excavations were conducted on four.

The archaeological fieldwork carried out by the firm in 1997 encompassed a range of assessments in fulfilment of legislative requirements. These included 17 draft plans of subdivision, three parks, an airport, a secondary plan, a business park, a municipal road and a proposed cemetery.

The following present brief profiles of three projects undertaken by the firm in 1997. In each case, the investigations were carried out under the general direction of Dana Poulton in the capacity of Consulting Archaeologist.

VICTORIA PARK MASTER PLAN

In 1997, D.R. Poulton & Associates was contracted by the City of London to carry out a Stage 2 archaeological survey of Victoria Park. This six hectare property is located in downtown London and is the oldest public park in the municipality.

As summarized in the Eighth Annual Archaeological Report of Ontario, this property has been the focus of ongoing studies since 1995 when the City of London instituted the Victoria Park Restoration Master Plan (Poulton and Sutton 1997:44-46). The initial phase of the study involved an inventory of the natural and cultural heritage of the property and an assessment of current conditions (Behr et al. 1995). This was followed by the identification of opportunities and

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constraints and the preparation of a draft restoration master plan (Hough Stansbury Woodland Naylor Dance et al. 1997). Although background studies had indicated a wealth of potential archaeological remains, the 1997 survey represented the first field-based assessment of archaeological planning concerns within the property. Details on the survey have been presented in the agency report on the assessment (D.R. Poulton & Associates 1998a) and in a published account (Poulton and Dodd 1998).

Historic research has determined that the property that now forms Victoria Park was the site of the Framed Infantry Barracks and Drill Ground. The Framed Infantry Barracks covered an area of some 10 acres including the entire northern two-thirds of the property; the southern third formed the drill ground (Figure 1, left). This barracks formed an integral part of the British Military Reserve established in London following the Rebellion of 1837. The British Garrison was based in London from 1838 to 1853, when troops were withdrawn to be sent to the Crimean War, and again from 1861 to 1869. During the mid to late 1850's, the complex served as a refugee camp for escaped slaves from the United States and as the site of a racially integrated school.

Research indicates that the barracks complex included several dozen structures surrounded by a stockade with projecting bastions. The major structures surrounded a parade square: this was bounded by the soldiers' quarters to the north, the officers' quarters to the south, the hospital compound to the west, and the canteen, cells, defaulters room, powder magazine and rifle magazine to the east. Additional structures included the officers' stables, cook houses and several privies. The barracks survived until the early 1870's, when a fire destroyed the officers' quarters, and the remainder of the structures were cleared in preparation for the development of Victoria Park.

The 1997 survey was directed by Christine Dodd. The strategy was to carry out a systematic coverage by shovel test pitting. Gaps in the survey coverage were represented where the points of the survey grid fell within asphalt paths or other hard surfaces, within 3 metres of trees, or within the alignments of buried telephone cables, hydro lines and water mains which criss-cross the property. The survey interval depended on the degree of inferred archaeological potential (Figure 1, right). The northern two-thirds of the park which encompassed the former barracks was identified as an area of high potential and was tested at a 5 metre interval. The southern third which encompassed the former drill ground was identified as an area of moderate potential and tested at a less intensive 10 metre interval.

The survey confirmed that Victoria Park contains an extensive range of historic archaeological resources. Some of the ceramics recovered predate the genesis of the barracks and may relate to earlier occupations by squatters in the 1820's or 1830's. Other, far more extensive remains relate to carriageways, paths and other facilities which pertain to the later development of the property as London's first public park. By far the most substantial and significant archaeological remains in Victoria Park, however, relate to the Framed Infantry Barracks of the mid 19th century.

The archaeological investigations established that substantial below-ground foundations of the military structures survive within Victoria Park. The survey recovered several thousand artifacts associated with the military occupation. These range from architectural debris and hardware such as bricks, mortar, plaster and nails to domestic refuse, including fragments of liquor bottles, drinking glasses and ceramic plates, cups and bowls. Still other discoveries included tobacco pipes and other personal items, military buttons (Figure 2), a musket ball and other firearms-related materials, and childrens' toys such as clay marbles. The presence of these remains in such quantity attests to the fact that the barracks served as home to several hundred people for a period of some decades.

A detailed distributional analysis of the cultural remains indicates that the distributions of various traits are consistent with the historically documented functions of key buildings. For example, the area of the officers' quarters clearly contains more expensive ceramic tablewares than the soldiers' quarters and the canteen. Factors such

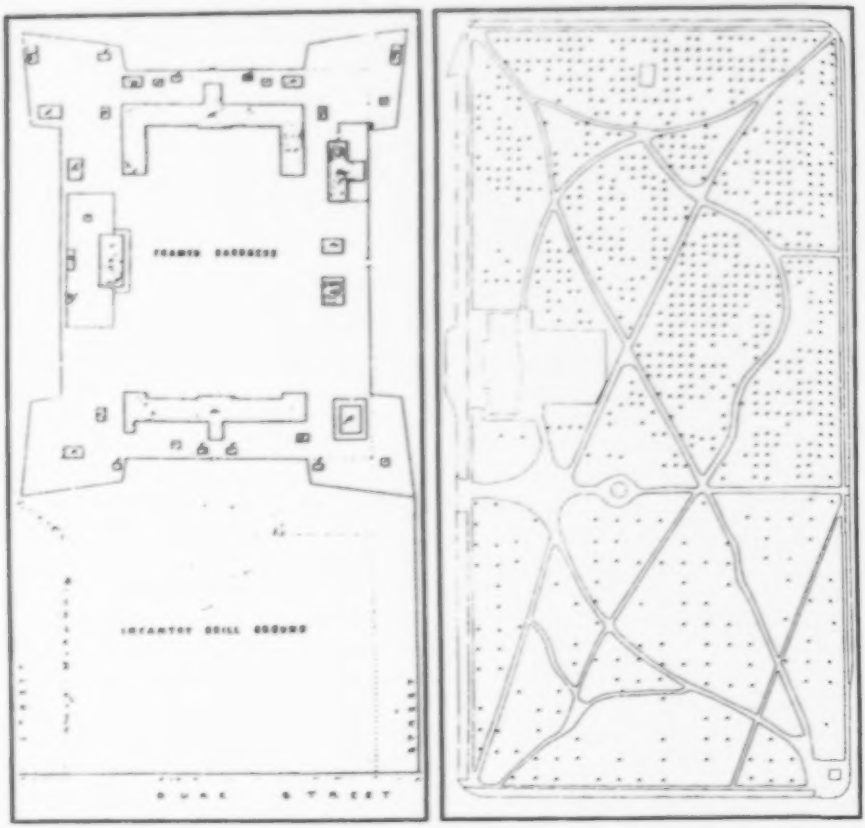

FIGURE 1. Victoria Park: 1849 Plan of the Framed Infantry Barracks (left) and 1997 archaeological survey coverage (right).

FIGURE 2. Select military buttons from Victoria Park. Left: Royal Welsh Fusiliers(1843-1845, 1850-1853). Centre: 2nd Battalion, Welsh Regiment (1867-1869). Right: Royal Irish Rifles (1847-1850).

as these suggest that archaeological deposits throughout the former barracks maintain a surprising degree of integrity.

Altogether, the investigations of Victoria Park indicate that the property represents the single largest and best preserved historic archaeological site in the City of London. It is also arguably the most important historic archaeological site in the city by virtue of its significance to the history of the region and to the development of the municipality. Altogether, these remains represent some of the most important and complex issues for future management of the property.

THE BIG BEND SITE

In August 1997, D.R. Poulton & Associates carried out limited test excavations at the Big Bend site (AkGv-89). This site is an undisturbed prehistoric component. It is located on a terrace within a bend in the Humber River just north of Woodbridge in the City of Vaughan. The area in question is covered by secondary growth forest and forms part of the future community park in the proposed Riverview Heights subdivision.

The Big Bend site was discovered in September 1989, in the course of a Stage 2 survey directed by Dana Poulton. The site was found during shovel test pitting at 10 metre intervals. More intensive test pitting was then carried out at 5 metre and 2.5 metre intervals. The prehistoric cultural material defined by these investigations was limited to two positive test pits, 2.5 metres apart. These yielded a small collection of seven specimens, all of which consisted of undiagnostic chert debitage. The report on the 1989 assessment identified the site as a potentially significant archaeological resource and recommended that test excavations be carried out to better determine its nature and limits.

In the summer of 1997 D.R. Poulton & Associates was contracted by Royal Park Homes to implement the recommendations for more detailed investigations of the site. Stage 3 test excavations were carried out over a two-day period under the direction of Rick Sutton (D.R. Poulton & Associates 1998b). The initial step involved the excavation of 20 one-metre test squares at 5 metre intervals to blanket the site area and delimit the component (Figure 3). Only one of these test units produced artifacts. Two additional test units were then excavated immediately north and south of the single positive test unit: both produced prehistoric artifacts. The artifact density in the three contiguous positive test squares ranged from 18 to 112 artifacts per unit. No diagnostic artifacts were recovered and no potential features were noted at the topsoil-subsoil interface.

The 1989 and 1997 investigations of the Big Bend site recovered a total of 174 specimens. All consist of Onondaga chert. The sample includes one scraper fragment, 52 biface thinning flakes, 105 flake fragments, 12 primary flakes, and two primary and two secondary decortification flakes. The test excavations suggest that the site may cover an area as little as 25 square metres or less. The small size of the site and the limited nature of the collection both attest to the fact that it represents a single component occupation. The evidence further suggests that this location was occupied by only one or a few individuals for a very short period of time - perhaps even as little as an hour or two. It is also clear from the predominance of biface thinning flakes and flake fragments that the person or persons responsible for the site were engaged in the reduction of one or a few rough bifaces which had been brought to this location from elsewhere.

In the absence of any diagnostic artifacts, the age and cultural affiliation of the Big Bend site are unknown. The lack of European trade goods may suggest that the site is prehistoric rather than historic native, but even so the component could date to any time within the broad span of the 11,000 year prehistory of southern Ontario, from ca. 9500 B.C. to 1550 A.D.

The preferred option identified for the site by the assessment is preservation by avoidance and given its location within the proposed community park, that option should be viable. Assuming it is, and that no further excavations are carried out, the Big Bend site will remain a mystery. What can be said, however, is that of all of the hundreds of archaeological sites discovered each year in southern Ontario, only a handful are both undisturbed

FIGURE 3. Big Bend site: Artifact frequencies in test squares.

FIGURE 4. Big Bend site: Total artifact recoveries from Unit 194N 115E.

and pure components, and fewer still can be attributed to a single depositional event. These factors underline just how rare and unusual a site this is.

As a footnote to the discussion of this site, it is worth noting that we know very little about the true archaeological potential of valley lands in this region. The reason is simple: major river valleys are difficult and costly to survey, and are generally precluded from the kinds of developments that occasion resource management-oriented assessments. Owing to these factors and to the relative lack of research-oriented surveys, valley lands are usually only ever examined in those rare cases where a proposed development happens to extent into them. The Big Bend site serves to remind us that valleys in Toronto and vicinity contain areas with a potential for archaeological remains, even if at this time we can neither qualify nor quantify that potential.

DUFFIN HEIGHTS AND LAMOREAUX NEIGHBOURHOODS

The most extensive survey carried out by the firm in 1997 was a Stage 2 assessment of two adjacent planning areas in the Town of Pickering: the Duffin Heights Neighbourhood (Neighbourhood 15) and the Lamoreaux Neighbourhood (Neighbourhood 16). This survey was undertaken on behalf of the North Pickering Development Corporation, Ontario Ministry of Municipal Affairs and Housing (D.R. Poulton & Associates 1998c).

The two planning areas are situated approximately 5 km north of Lake Ontario (Figure 5). They have a combined surface area of 927 hectares, 60% of which are provincially-owned. These neighbourhoods comprise the southern portion of the 3600 hectare Seaton Community lands which in turn form part of the original 25,000 acre North Pickering land holding assembled by the province in the early 1970's (Konrad 1973, Konrad and Ross 1974). The subject lands are located in the Duffin Creek drainage system and straddle the tributaries Urfé Creek and Ganatsekiagon Creek.

The focus of the 1997 survey was the provincially-owned portion of Neighbourhoods 15 and 16 which total 575 hectares. The purpose of the assessment was to identify archaeological resources of concern to future development in the tableland portion of those lands. The areas of concern for field survey included active and former agricultural lands, forested tablelands, and the Seaton Golf & Country Club.

This survey represents the latest in a long series of archaeological studies of the provincial land assembly in Pickering carried out over the last 25 years. It followed an intensive background study carried out by D.R. Poulton & Associates as part of the Cultural Heritage Resource Assessment of the Seaton lands (Hough Stansbury Woodland Naylor Dance et al. 1994). Previous investigations in this area were summarized in the Fifth Annual Archaeological Report of Ontario (Poulton 1994: 57-59). Altogether, past investigations documented three archaeological sites within the provincially owned lands in Neighbourhoods 15 and 16. An additional nine sites are located in the privately owned portions of the two planning areas.

The 1997 survey was directed by Rick Sutton. It effected a detailed coverage of lands totalling 223 ha - 133 ha by surface examination and 90 hectares by test pitting. The survey resulted in the discovery of 37 previously unknown sites, bringing the total site inventory to 40. Of those, 34 are prehistoric native sites and six are 19th century homesteads.

New discoveries include a Middle Woodland component at the Ashbridge site: it represents a habitation of the Point Peninsula Complex, a rarity in the Toronto area. Arguably the most important discoveries, however, relate to advances in our knowledge of the evolution of Early Iroquoian peoples in the Duffin Creek drainage.

Archaeological investigations in the 1950's and 1970's had identified a number of Early Iroquoian sites in the immediate area of the Duffin Heights and Lamoreaux Neighbourhoods, including the Miller site (Kenyon 1968) and the Ginger, Bolitho, Delancey and Winnifred sites (Spittal 1978, Ambrose 1981). Interpretations of these sites were complicated by the fact that most of them had been partially destroyed by gravel pitting prior

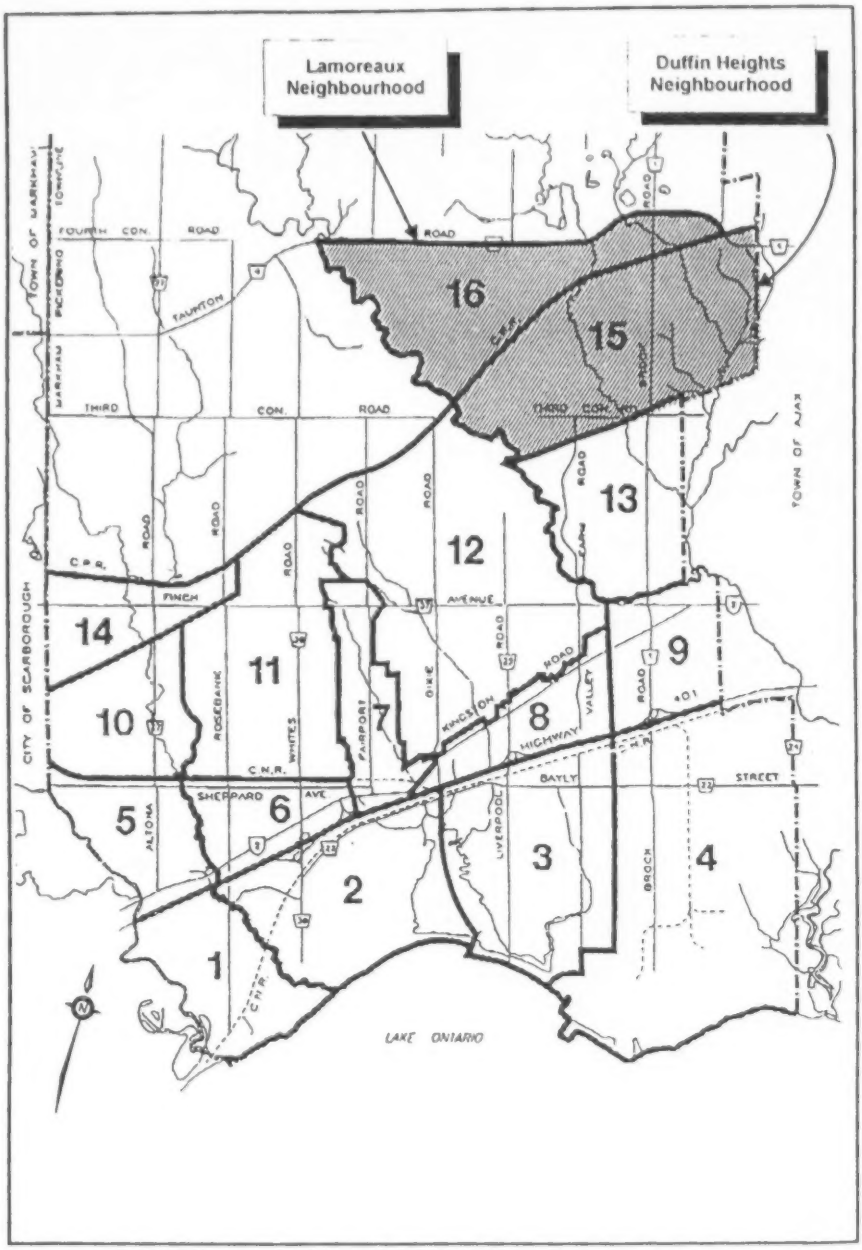

FIGURE 5. Location of the Duffin Heights and Lamoreaux Neighbourhoods.

to their discovery. Despite that, past investigations confirmed that the sample included at least two semi-permanent villages. Distributional studies further demonstrated that the sites were oriented to the relic shoreline of post-glacial Lake Iroquois and to associated sandy loam soils (Hough Woodland Naylor Dance et al. 1994:114-119). Other related sites in the area include Boys and Carleton (Ridley 1958, Reid 1975). Altogether, these sites form the largest and most remarkable concentration of Early Iroquoian sites in south-central Ontario.

The 1997 survey discovered an additional five Early Iroquoian sites. While excavations would be needed for a confident determination of the settlement and subsistence patterns, preliminary indications are that they consist of a hamlet, three cabin sites and a camp. Past research had suggested that the range of site types of what have been termed the Pickering Branch peoples of this region were more restricted than those of their Glen Meyer contemporaries in southwestern Ontario (Williamson 1990:313-314). The new discoveries in the Duffin Creek drainage indicate that settlement and subsistence patterns in south-central Ontario were more diverse than previously thought.

Although more intensive investigations will be required for any truly detailed understanding of the Early Iroquoian occupation of the Duffin Creek drainage, one thing is clear. That is that new insights may be expected sooner rather than later, as the ever-increasing development pressures in this area present opportunities for fresh discoveries through the escalation of resource management-oriented surveys and excavations.

REFERENCES

Ambrose, M.
1981. North Pickering Development Corporation Urban Stage One Archaeological Excavations, 1980. Prepared for the Ministry of Housing. On file, Ministry of Citizenship, Culture and Recreation, Toronto.

Behr, S., A. Hannay, M. Pascoe, D. Poulton, M. Borland and K. Pratt
1995. Victoria Park Inventory and Condition Report: Historic and Contemporary. Report on file, City of London.

Hough, Stansbury, Woodland, Naylor Dance Limited et al.
1994. Seaton Cultural Heritage Resources Assessment, Volume I. Prepared by Hough, Stansbury, Woodland, Naylor Dance Limited, D.R. Poulton & Associates Inc., and Andre Scheinman, Heritage Consultant. Report on file, Ministry of Citizenship, Culture and Recreation.

Hough Stansbury Woodland Naylor Dance Limited et al.
1997. Victoria Park Restoration Master Plan. Prepared by Hough Stansbury Woodland Naylor Dance Limited, Jack B. Ellis and Associates, and D.R. Poulton & Associates Inc. Draft report on file, City of London.

Kenyon, Walter
1968. *The Miller Site*. Royal Ontario Museum, University of Toronto, Art and Archaeology Occasional Paper No. 14. Bryant Press, Toronto.

Konrad, V.A.
1973. *The Archaeological Resources of the Metropolitan Toronto Planning Area: Inventory and Prospect*. York University, Department of Geography Discussion Paper 10.

Konrad, V.A. and W.A. Ross
1974. *An Archaeological Survey for the North Pickering Project*. Ministry of Natural Resources, Historic Sites Branch, Research Report 4, Part I.

Poulton, Dana R.
1994. "Summary of 1993 Consulting Activities of D.R. Poulton & Associates Inc." *Eighth Annual Archaeological Report of Ontario, New Series*: 57-59. Ontario Heritage Foundation.

Poulton, Dana R. and Christine F. Dodd
1998. "The Archaeological Investigations of Victoria Park, City of London, Ontario." In *KEWA* 98-3: 2-23. March 1998.

Poulton, Dana R. and Richard E. Sutton
1997. "Summary of 1996 Consulting Activities of D.R. Poulton & Associates Inc." *Eighth Annual Archaeological Report of Ontario, New Series*: 44-46. Ontario Heritage Foundation.

D.R. Poulton & Associates Inc.
1998a. The Stage 1-2 Archaeological Assessment of Victoria Park, City of London, Ontario. September, 1998. Prepared by Dana Poulton and Christine Dodd. On file, City of London and the Ministry of Citizenship, Culture and Recreation.

1998b. The 1997 Stage 3 Archaeological Excavations of the Big Bend Site (AkGv-89), Riverview Heights Subdivision, City of Vaughan, Ontario. Prepared by Richard Sutton and Dana Poulton. On file, Ministry of Citizenship, Culture and Recreation.

1998c. The 1997 Stage 1-3 Archaeological Assessment of the Lamoreaux and Duffin Heights Neighbourhoods, Town of Pickering, Ontario. Two volumes. March, 1998. Prepared by Richard Sutton and Dana Poulton. On file, North Pickering Development Corporation and the Ministry of Citizenship, Culture and Recreation.

Reid, C.S.
1975. *The Boys Site and the Early Ontario Iroquois Tradition*. Archaeological Survey of Canada. National Museum of Man Mercury Series, Paper No.42. Ottawa.

Ridley, Frank
1958. *The Boys and Barrie Sites*. The Ontario Archaeological Society Publication No. 4, Toronto.

Spittal, David
1978. North Pickering Development Corporation Urban Stage One Archaeological Survey. Report on file, Ministry of Citizenship, Culture and Recreation, Toronto.

Williamson, R.F.
1990. "The Early Iroquoian Period of Southern Ontario." In *The Archaeology of Southern Ontario to A.D. 1650*. Occasional Publications of the London Chapter No. 5, pp. 291-320. Edited by C. Ellis and N. Ferris, Ontario Archaeological Society, London.

FIELD SCHOOLS

CATARAQUI ARCHAEOLOGICAL RESEARCH FOUNDATION 1997 FIELD SCHOOL

SUSAN M. BAZELY

The Cataraqui Archaeological Research Foundation is a heritage resource man agement group dedicated to promoting archaeological research and resource management through public education and awareness. The Kingston Archaeological Centre, comprised of an interpretive exhibit on the history of human occupation in the Kingston region from pre-contact to the 19th century, an extensive research collection, archives and library, is operated by the Foundation. To fulfil part of its education mandate, Foundation Staff and Directors organize "*Can You Dig It?*" a summer archaeology camp.

The second season of excavation on the site of the Correctional Service of Canada (CSC) Museum was conducted as part of "*Can You Dig It?*". Ongoing archival research and excavations during the summer of 1996 had raised additional questions, primarily concerning the lack of evidence of occupation predating the construction of the Warden's Residence in 1871.

It was initially hoped that investigation of the earlier occupation period would provide information on the early development of the Kingston Penitentiary, in addition to evidence of the militia occupation. Archival research had indicated that the militia were stationed at this location during the Upper Canada Rebellion in the 1830s and subsequently in the 1860s during the Fenian threat (Bazely & St. Onge, 1996). More recent research suggests that stone cottages were built on the site in 1833-34 for the use of the Superintendent and Master builder of the Penitentiary and their families, subsequently to be used by the Warden and Deputy Warden until their residences inside the walls could be erected. Afterwards, the quarters were to be used by the assistant keepers (Bazely, Moore & St. Onge, 1997).

The camp was conducted for 5 week long sessions between July 7 and August 22 1997 with a total registration of 37 participants. The groups of participants were aged between 8 and 19 years. Some changes were made to the program format from the previous year. The first day workshop sessions were Research & the Archives and Archaeology & Excavation. Day two, three and four were on site and included a site and museum tour, but focussed primarily on all aspects of fieldwork. The final day included workshops on post excavation activities and preparation of interpretive exhibits. All workshops were conducted at the Kingston Archaeological Centre, 370 King Street West. Excavations were located on the front lawn of the CSC Museum, corner of King Street West and Sir John A. Macdonald Boulevard in Kingston, Ontario.

Only two units from the previous year's

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FIGURE 1. Students experience all aspects of the field.

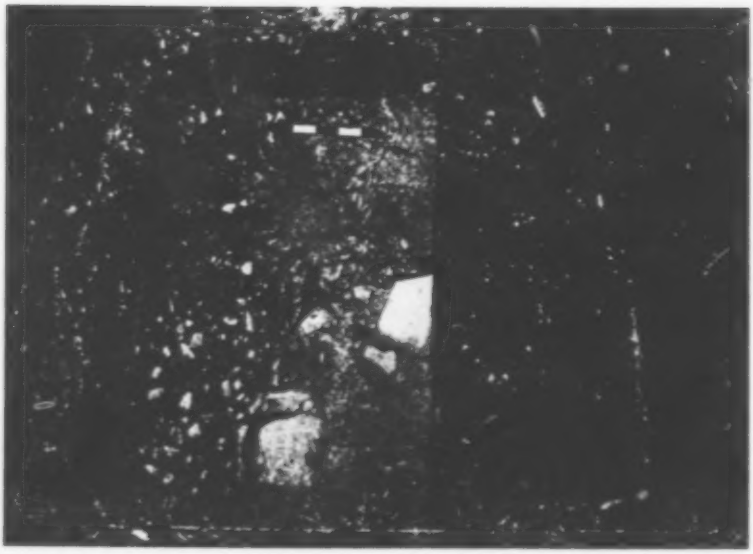

FIGURE 2. Remnants of the stone cottage foundation beneath 1.20 metres of fill.

FIGURE 3. Metal crucifix and bone cross.

excavation were continued, but an additional ten units were opened during the course of the season. Once again a large amount of fill related to landscaping during the Warden's Residence period was encountered. Artifacts recovered from this context were numerous and included primarily a variety of mid to late 19th century domestic items. Some interesting artifacts include an 1844 shilling, a plain carved bone cross and a metal crucifix probably from a rosary. Unfortunately, the origin of the fill is unknown. Structural elements relating to the stone cottages were evident in two units with one foundation wall being located at a depth of 1.20 metres. A dry laid stone drain was encountered to the west of the stone foundation, but it is unclear what the relationship is between these two elements(Bazely, Moore & St. Onge, 1997). No evidence of any military connection was observed, however it is unlikely that militia occupation would have had obvious military associations.

The archaeological work of this project is a small component of an ongoing effort to pursue and understand the history of the Kingston Penitentiary. Excavations of this particular location at the Warden's Residence site have now been completed.

REFERENCES

Bazely, Susan M. & David St. Onge
1997. Correctional Service of Canada Museum: The Warden's Residence Archaeological Excavation 1996 BhGd-17 Public Archaeology Program, On file, Ontario Ministry of Citizenship, Culture & Recreation.

Bazely, Susan M., Michelle Moore & David St. Onge
1998. Correctional Service of Canada Museum: The Warden's Residence Archaeological Excavation 1997 BhGd-17 Public Archaeology Program.

THE 1997 TRENT UNIVERSITY FIELDSCHOOL AT THE BARK SITE (BbGp-12), PETERBOROUGH COUNTY

SUSAN M. JAMIESON

INTRODUCTION

The Bark site (BbGp-12) was mapped, surface collected, and tested in 1983 by Dr. Mima Kapches, of the Royal Ontario Museum and again in 1986 and 1987 by Rick Sutton, then a Master's student in the Department of Anthropology, McMaster University. An expanded program of research at the site was undertaken in May and June of 1997 in conjunction with Trent University's field school in Ontario archaeology. Research goals were to obtain an enhanced artifact sample and to more fully identify the nature and extent of the village's settlement patterns in order to add to our scant knowledge of the 15th century middle Trent Valley.

On the basis of his own research and data collected by Kapches (1983), Sutton (1990:25,27) concluded that the site was a single component mid-15th century Huron village that was not situated for defence, extended over 0.7 to 0.9 hectares, and had its greatest similarity with sites from the Balsam Lake area in the upper Trent Valley (Sutton 1990:46-50). He argued that the site's faunal and floral remains indicate that the village was occupied year-round and that it was located near "large areas of secondary growth" (Sutton 1990:25). Comparison with other site locations shows that Bark's positioning relative to local topography and environment is very similar to that of the Early and Late Ontario Iroquois Richardson site, at the eastern end of Rice Lake, and the Middle Ontario Iroquois Wilson site, located less than 1 kilometres to the east of Bark.

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SITE STRATA

The 1997 excavations confirmed that there are essentially three main cultural strata to the site. These developed in the Melanic Orthic Brunisol that characterizes the vicinity. Stratum I, the uppermost layer, is a recent and arbitrarily defined sod and sod clearing level. It is a relatively homogeneous sandy loam which contains 15th century Iroquoian and late 19th/early 20th century European artifacts. The underlying Stratum II is the plough zone continuation of Stratum I, formed through repeated working of the soil during the 19th and 20th centuries. This has modified and/or destroyed the contexts and features of 15th century aboriginal use.

Artifacts recovered from this layer relate to a late Pickering occupation, the 15th century village, and to 19th and 20th centuryagricultural use of the site. Stratum III is a sandy loam occupation and destruction layer in which 15th century Iroquoian and late Pickering settlement patterns can be documented. The latter are represented by leached-out post moulds and sterile pit features initially visible some 10 centimetres deeper, on average, than the darker and more obviously or-

ganic 15th century remains. Only a small number of artifacts can be assigned, on the basis of clear association or stylistic diagnostics, to the Pickering component: parts of four smoking pipes and a utilized bipolar flake. Other artifacts are doubtless Pickering in origin, but lack diagnostics which permit their separation from the later Iroquoian materials with which they are intermixed.

SETTLEMENT PATTERNS

During the 1997 season, a plethora of overlapped features and postmoulds were exposed, indicating that there had been extensive rebuilding of the 15th century component. In addition to Sutton's House 1, which runs northeast to southwest, portions of at least two other 15th century houses were encountered. Both are c. 7.5 metres wide. They run east to west and northwest to southeast; the first structure overlies House 1. It is not yet clear whether our second structure does the same. Both of the 15th century houses located in 1997 overlie at least one, probably two, Pickering houses.

PICKERING ARTIFACTS

Four rather 'crudely' manufactured barrel-shaped pipe bowl sherds are assignable to the Pickering component. One is decorated with spiral bands of incising and punctates which create a stylized spotted snake effigy, two have encircling push-pull horizontals (ie., nested circles) under the lip, and the last is undecorated. All have relatively large particles (up to 2 millimetres) of quartzite temper. The single stem sherd is plain, more or less round in cross-section, and smooth bored. Also recovered was a single edge retouched tool made on a point-area bipolar core of imported Vanport Chert.

MIDDLE TRENT VALLEY IROQUOIS ARTIFACTS

Of the 289 sherds which constitute the 1997 assemblage of 15th century ceramic vessel rims, only 26 can be considered analyzable following the criteria specified by Sutton (1990:12). This is owing to exfoliation and especially to the large number of very small sherds. Hence, this sample not only is effectively too small to permit solid interpretation but also may not be representative of all areas of the site having been obtained principally from within and adjacent to a series of superimposed house structures. Nonetheless, the Kolmogorow-Smirnow Two-Sample Test confirms that Sutton's and Trent's rim sherd samples have a 90% probability of coming from the same population ($X2 = 4.806$ at 2 df). The majority (87%) have incised or stamped single or opposed motifs on their collars. Necks most often (83%) bear opposed obliques,horizontals, or simple obliques: only about 10% lack decoration. Most identified shoulder sherds are decorated and most body sherds are plain. Five fragmentary pieces were applique attachments to vessels. Three of these are strap handle sherds, likely reflecting a Saint Lawrence Iroquoian presence at the site (Emerson 1954:83).

Sixty-one pipe bowl and 16 stem sherds representing a minimum of 20 pipes were recovered. The conical flared form dominates, followed by barrel, trumpet, and vasiform bowl shapes. The careful craftsmanship typical of Saint Lawrence Iroquoian ceramic technology (Jamieson 1990:392) is evident within this sample.

The lithic assemblage includes 130 primary and 172 secondary flakes, 27 bipolar cores and core fragments, 73 pieces of shatter, 8 edge retouched tools, 2 utilized flakes, 1 celt, 1 abrader, and 1 hammerstone. The most common lithic material type is Upper Bobcaygeon Chert, available in local outcrops and tills. Imported Onondaga chert is the second most common toolstone, followed by chloride schist. The latter would have been available locally, although it may have been obtained from the north and east of the Kawartha Lakes at the southern margin of the Canadian Shield. The frequencies of primary versus secondary flakes indicate that Onondaga Chert and chloride schist was more intensively reduced than was Upper Bobcaygeon Chert. This pattern, in turn, suggests greater curation of the schist and Onondaga Chert, consistent with greater procurement effort and/or cost. Core and shatter toolstone types further support this pattern and its interpretation. Contrary to Sutton's (1990:27) results, the 1997 lithic sample indicates that Upper Bobcaygeon Chert, rather than Onondaga Chert,

was preferred for the more formal tool types.

Mammal remains dominate the faunal assemblage with a number of individual specimens count of 322 (44%). Second in terms of raw counts are fish, at a total of 268 bones and bone fragments (37%), followed by 104 Pelecypod (fresh water mussel) shell pieces (14%). Because most of these remains are in a highly fragmented condition, relatively few individuals actually are represented. The assemblage also contains 16 bird bones (2%), 9 reptile remains (1%, principally pieces of turtle shell), 8 pieces of snail shell (1%), and 5 amphibian bones (1%). This is a pattern which contrasts sharply with Sutton's (1990:19) findings. Some of the difference between the two samples can be accounted for by the fact that Sutton used flotation procedures to recover three-quarters of his sample, the remainder being obtained via dry-screening through 1/4 inch mesh, while a little less than one-half of the 1997 sample was recovered through dry screening procedures which used 1/8 and 1/16 inch mesh, the remainder being obtained via dry-screening through 1/4 inch mesh. However, some of the differences between the two samples cannot be explained by recovery procedures alone and clearly are a consequence of past activities at the site.

Floral specimens include a section of one sunflower seed, two corn kernels and one cob fragment, and 2 small butternut shell fragments. Corn kernel dimensions (W/T ratio of 1.5:1, L/W ratio of 1:1) and crescent shape confirm that they are Eastern Eight Row maize (Monckton 1992:30; Pearsell 1980). Wood charcoal includes pine, oak, birch, and elm.

EUROPEAN ARTIFACTS

Items in this category all date from after ca. 1870 A.D.: wire nails, machine-made metal washers, a tin heart-shaped tobacco seal, one lipped tin container lid (perhaps originally for snuff or ointment), a single dose medicine vial, a plastic barrette, and a crimped crown cap (from a bottle).

SITE FUNCTIONS AND DATING

A tentative date of mid 12th through 13th century A.D. is assigned to the Pickering component based on pipes discussed above and a punctated rim sherd illustrated by Sutton (1990:73 [Plate 3, number 7]). The very limited settlement data available at this time points to a small hamlet which contributed to the areas of secondary growth favored by subsequent site occupants. There is a single calibrated radiocarbon date of A.D. 1420+/-35 for the later Iroquoian village (Sutton 1990:25). This occupation also has been estimated to date to the mid 15th century based on seriation of the overall assemblage (Sutton 1990:27), which contains middle Trent Valley and Saint Lawrence Iroquois ceramics.

The site's European artifacts all date from the late 19th or 20th centuries, consistent with the fact that the region had been settled by Europeans in the early 19th century and within a relatively short period was being intensively farmed by them (Historical Atlas of Northumberland and Durham Counties 1972:vi-vii). Artifact types are consistent with European agricultural use of the site area.

ACKNOWLEDGEMENTS

I acknowledge, with gratitude, the assistance and cooperation of Joan and Don Bark, which greatly facilitated the fieldwork.

Special appreciation is extended Dr. Mima Kapches, Dan Longboat, Shirley Williams, Megan Springate, Marilyn Baker, David Cruz, and the 1997 fieldschool participants. The research component was funded through the Office of the Dean of Arts and Science, Trent University, and the educational component of the fieldschool was enhanced through a Trent University Academic Innovation Fund award to the author.

REFERENCES

1972. *Historical Atlas of Northumberland and Durhectaresm Counties*. Facsimile of 1878 H. Belden and Company edition. Mika Screening, Belleville, Ontario.

Emerson, John Norman
1954. "The Archaeology of the Ontario Iroquois." Unpublished Ph.D. Dissertation, Department of Archaeology, University of Chicago, Chicago, Illinois.

Jamieson, James Bruce
1990. "The Archaeology of the St. Lawrence Iroquoians." In *The Archaeology of Southern Ontario to A.D. 1650*, Chris J. Ellis and Neal Ferris, eds., pp. 385-404. Occasional Publication No. 5, London Chapter of the Ontario Archaeological Society, London, Ontario.

Kapches, Mima
1983. "Report on the Bark Site, Cavan Township, Peterborough County. Report on Activities Conducted Under Archaeological Licence 83-05." On file, Ministry of Citizenship, Culture and Recreation, Toronto.

Monckton, Stephen G.
1992. *Huron Paleoethnobotany*. The Ontario Heritage Foundation, Toronto.

Pearsell, D.M.
1980. "Analysis of an Archaeological Maize Cache from Manabi Province, Ecuador." *Economic Botany* 34(4):344-351.

Sutton, Richard E.
1990. *Hidden Amidst the Hills: Middle and Late Iroquoian Occupations in the Middle Trent Valley*. Occasional Papers in Northeastern Archaeology No. 3. Copetown Press, Dundas, Ontario.

THE 1997 ERINDALE COLLEGE FIELD SCHOOL AT THE SASSAFRAS POINT SITE (AHGX-3)

DAVID G. SMITH

INTRODUCTION

In the late summer and fall of 1997, a course on archaeological field and laboratory methods was conducted by the Department of Anthropology, Erindale College, University of Toronto at Mississauga. The field component of the course was conducted at Cootes Paradise, in the Royal Botanical Gardens at the extreme western end of Lake Ontario. Excavations were carried out at the Sassafras Point site (AhGx-3), located on the landscape feature of the same name. The Sassafras Point site was discovered and registered by David Stothers in 1969 and briefly mentioned in his Ph.D. thesis (Stothers 1977:30).

The research objective of the field school was to determine the extent and nature of cultural deposits at the site. The pedagogical aim of the field school was to provide instruction and practical experience in basic archaeological data collection and processing methods. In this case, the students had the added benefit of actively participating in an on-going, large-scale research programme.

ENVIRONMENT

Sassafras Point is a small peninsula jutting into Cootes Paradise on its northern shore. To distinguish this landscape feature from the site situated on it, the peninsula will be referred to in the rest of this report as the Sassafras Point Geographical Feature (SPGF). The SPGF extends about 350 metres on a SW to NE axis; it is bordered on the SE side by a narrow inlet (the Westdale Cut) between Sassafras and Princess Points, and on the NW side by Cootes Paradise proper. Its topography is more complex than that of either the two other peninsulas at Cootes Paradise where Princess Point sites are located: Princess Point is a low-lying, relatively level, peninsula, and Bull's Point is a plateau of land about 30 m. above water level. The SPGF can be divided into three topographic sections. The first is located at the base of the peninsula and consists of a narrow ridge about 30 metres above the water level, connecting the rest of the peninsula to the mainland. This ridge opens on to the second section, a hummocky plateau at about 30 metres above the water level. At about 150 metres from the base of the peninsula, the plateau drops down to the third section, a low-lying area about 5 metres above the water level. The third section is relatively level and constitutes about half of the extent of the SPGF, including the tip.

The SPGF is entirely forested except for a trail running around its perimeter (Figure 1) and an area of about 50 square metres at the tip that serves as an unregulated 'party spot'. The canopy consists largely of beech, maple and oak trees; the understory is dominated by sassafras, which gives the point its name. The Sassafras

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Point site itself is situated on the low-lying area toward the tip of the point.

FIELD AND LABORATORY ACTIVITIES

The research strategy for the field work consisted of test pitting to determine the extent of the site, and test excavations to determine the nature of cultural deposits. Due to time constraints and the nature of the field school, the test excavation was limited in nature. Excavations were concentrated in the NE portion of the low-lying section of the SPGF. One metre squares were set in at five metre intervals, beginning at roughly five metres west of the disturbed area at the tip of Sassafras Point (Figure 2). A total of ten square metres was excavated over the course of the field school in 1997. Each square was excavated to subsoil in arbitrary 5 centimetres . levels, and a 10 litre flotation sample was taken from each level. Except for the flotation samples, all soils were sifted through 1/8 inch mesh.

Soil development consists of A, B and C horizons. The A horizon is a thin layer (2-3 centimetres thick) of active soil development. The B horizon consists of a dark humic layer of about twenty centimetres over a leached-out layer of about 5 centimetres . The C horizon is light brown silty subsoil. There is no evidence for erosion.

Artifacts were found throughout the B horizon. A rather limited artifact sample was recovered from both the screening and the flotation processes. Most of the pottery recovered from the test excavations is typical of a Princess Point assemblage, but a minority of sherds found throughout the area tested are typical Middle Ontario Iroquoian (specifically Middleport). The chipped lithic assemblage includes cores and flakes as well as a small number of finished tools, including bifaces and scrapers. Most of the chert is Onondaga. Almost no faunal material was recovered. On-going analysis of flotation samples has recovered a number of fragments of corn kernels.

Portions of five features were revealed once the total B horizon had been removed and the subsoil surface was shovel-shined. None of these features was completely exposed, and none was excavated. No hearth floors were uncovered in the excavated area.

Test pit survey was conducted at five metres intervals in the area of the low-lying section of the SPGF between the slope up to the higher ground and test excavations (Figure 2). Seventy-eight test pits, each thirty centimetres square, were shovel excavated to subsoil, and all soils were screened through 1/8 inch mesh.

Cultural material was recovered from a majority of the test pits. Most of this material is undiagnostic, but a scattering of Middleport pottery was found throughout the area test pitted. A few sherds with a cord-roughened exterior were found in the test pits immediately adjacent to the area where the test excavation was carried out.

RESULTS

The 1997 research at Sassafras Point determined that the site is multi-component in nature. On the basis of diagnostic cord-wrapped stick decorated pottery, the oldest component is attributed to the Princess Point Complex, dating to the transitional period between Middle Woodland and Late Woodland (AD 650 - 1000) (Stothers 1977; Fox 1990; Smith and Crawford 1997). In addition, pottery with incised or stamped decoration typical of the Middleport Substage (AD 1350-1400) of the Middle Ontario Iroquoian Stage (AD 1300-1400) of the Ontario Iroquoian Tradition (Wright 1966) was recovered. No more detailed determinations regarding age and cultural affinity can be made at this time.

Very little can be said concerning site type, function or structure. The total site area of the Princess Point component is roughly 3500 square metres, and that of the Middleport component is roughly 7000 square metres. Site areas of these sizes indicate extensive occupation, but the data suggest that neither component was occupied intensively for any length of time. For example, no midden deposits were discovered by test pitting or test excavation. The presence of subsurface features indicates settlement ac-

FIGURE 1. Photograph of Students Recording Post Moulds at the Sassafras Point Site

tivity, but attribution of these features to either the Princess Point or Middleport components cannot be made at this time.

The most important result of the 1997 research at the Sassafras Point site was to determine that it was subject to both Princess Point and Middle Ontario Iroquoian (Middleport) occupations. The Princess Point occupation is limited to roughly the NE half of the low-lying section of the SPGF; the Middleport component appears to cover the entire extent of this section. The cultural deposits relating to both of these components are shallow and artifact recovery was limited, indicating the possibility that neither occupation was intensive.

Given the limited nature of the excavations and the multi-component nature of the site, the 1997 work at Sassafras Point does not contribute a great deal to our understanding of the prehistoric native occupation of Cootes Paradise, but some qualified interpretations can be offered. We now have evidence for seven Princess Point sites around the wetland. The largest are Princess Point (AhGx-1), Sassafras Point (AhGx-3), Old Lilac Gardens (AhGx-6) and Arboretum Nursery (AhGx-8), all of which are interpreted as possible habitation sites. Sites on both Rat Island and Hickory Island are of unknown size and function, but are most likely special purpose stations for the exploitation of marsh resources. The same interpretation is offered for the Bull's Point site, which is situated at the bottom of a glacial ravine cutting into the west side of the Bull's Point plateau and which was subject to Erindale field school excavations in 1995 and 1996 (Smith 1997). Seasonality of any of these occupations is open to question. In previous reports and publications, the smaller sites were

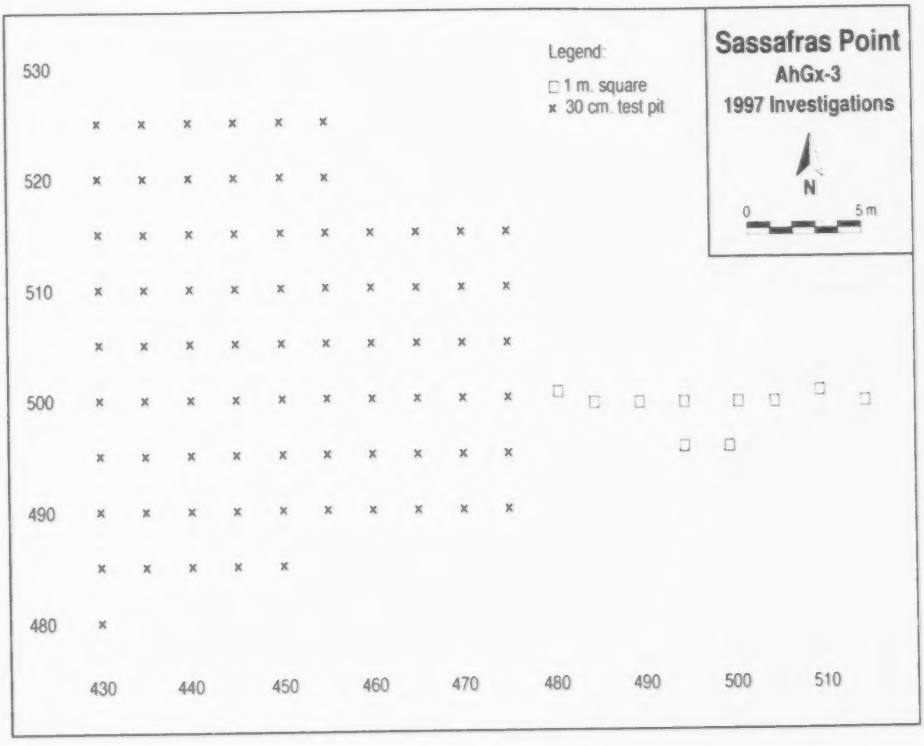

FIGURE 2. Situation of Test Pits and Test Squares Excavated at the Sassafras Point Site in 1997

interpreted as seasonal stations for people based at larger, possibly permanent habitation sites, such as those located at Princess and Sassafras Points see Smith, Ormerod and Bekerman 1996). The limited nature of the Princess Point occupation at the Sassafras Point site casts some doubt on the interpretation of this site as a permanent habitation. It may be that most of the known Princess Point sites at Cootes Paradise were seasonal camps for people based at the Princess Point site or elsewhere, or who had no permanent base but were following a seasonal round of resource exploitation.

An important contribution of the 1997 research was to provide further documentation for Middle Ontario Iroquoian exploitation of Cootes Paradise. Prior to 1995, little evidence for occupation of the margins of the wetland after Princess Point times was available. Excavations at the Bull's Point (AhGx-9) and Bull's Cove (AhGx-365) sites on the north shore of Cootes Paradise in 1995 and 1996 recovered a very small amount of material that may be attributable to the Early Ontario Iroquoian Stage. In 1996, an extremely small concentration of Early to Middle Iroquoian pottery was discovered through test pit survey on a narrow terrace situated to the west of Bull's Point. This site is designated as Cootes 1 (AhGx-366). Although the function of the larger Middleport occupation at Sassafras Point remains undetermined, this component demonstrates that Cootes Paradise was the focus of greater post-Princess Point Iroquoian exploitation than was previously suspected.

REFERENCES

Fox, William
1990. The Middle Woodland to Late Woodland Transition. In *The Archaeology of Southern Ontario to A.D. 1650*, edited by Chris J. Ellis and Neal Ferris, pp. 171-188. London, Ontario: Ontario Archaeological Society.

Smith, David G.
1997. "Recent Investigation of Late Woodland Occupations at Cootes Paradise, Ontario". *Ontario Archaeology* 63:4-16.

Smith, David G., G.W. Crawford
1997. "Recent Developments in the Archaeology of the Princess Point Complex in Southern Ontario". *Canadian Journal of Archaeology* 21:9-32.

Smith, David G., Trevor L. Ormerod and Andre L. Bekerman
1996. "Small Princess Point Sites at Cootes Paradise". In Home *is Where the Hearth Is: The Contribution of Small Sites to Our Understanding of Ontario's Past*, edited by J.-L. Pilon and R. Perkins, pp. 87-96. Ottawa: Ontario Archaeological Society.

Stothers, David M.
1977. *The Princess Point Complex*. National Museum of Man, Archaeological Survey of Canada, Mercury Series 58. Wright, James V.1966. The Ontario Iroquois Tradition. National Museum of Canada, Bulletin 210.

EXCAVATIONS IN THE SOUTH COMPLEX: WILFRED LAURIER ARCHAEOLOGICAL FIELD SCHOOL AT THE HISTORIC NAVAL AND MILITARY ESTABLISHMENTS AT PENETANGUISHENE

JOHN R. TRIGGS

INTRODUCTION

Discovery Harbour, formerly the Historic Naval and Military Establishments at Penetanguishene, is an historic site under the jurisdiction of Huronia Historical Parks. The site is approximately 35 acres in size and is situated on Lots 122, 123 and 124, Concession I, Tay Township, Simcoe County, Ontario. The land is provincially owned and has been administered as an historic park by the Government of Ontario since 1970. Since 1991, the site has been the focus of investigation by students enrolled in a field school, taught by instructor Dr. John Triggs, and offered through the Department of Archaeology at Wilfrid Laurier University. Over a six week period students are introduced to techniques of excavation and analytical methods used on historic period sites.

HISTORICAL BACKGROUND

In 1817, two and a half years after the war between Britain and the United States, a decision was made to establish Penetanguishene as the preeminent naval depot for the Upper Lakes. No sooner had the post been established however, when the Rush-Bagot Agreement of 1817 limited the number of warships on the lakes. As a condition of the treaty, vessels under construction at Penetanguishene were to be kept 'in ordinary' (stored and stripped of armament) in the large naval storehouse recently completed. Despite this change in function from naval base to naval storage depot, there was little effect on the scale of settlement at Penetanguishene.

During the period 1817 to 1820, the post included a small enclave of officers, sailors, soldiers, and civilians, including women and children. Sketches, watercolours, and plans of the establishments during these early years depict over 70 log huts, the naval storehouse, officers' quarters, barracks, a hospital, and numerous utilitarian buildings. Life at this remote outpost was one of routine and hardship and for the average soldier the posting would likely have been insufferable. In fact, desertions during the early years were rampant. For the few officers, some of whom brought families to the post, the tedium and harsh conditions were relieved only by social gatherings and events.

By the mid-1820s, there was a reduction of naval forces in Canada and a corresponding pressure from the British government to close or scale down the establishments as a cost-cutting

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measure. This heralded the beginning of the end for the post at Penetanguishene. Largely as a result of limited expenditures for naval and military forces, there was a decline in the size of the garrison (offset somewhat by an influx of soldiers and settlers from Drummond Island in 1828), a reduction of supplies and a gradual decay that permeated all aspects of the naval post. Buildings described as being unfit for human habitation were occupied through the cold winters, for example, and many letters recount the austere conditions during the latter part of the decade. By 1834, the naval presence at the site was for all intents and purposes ended. Its former position of prominence was usurped by a new military, as opposed to naval, establishment that continued to play a role in the defence of the province until 1856.

RESEARCH OBJECTIVES

Previous research conducted in 1991 and 1993 (Triggs 1993; 1995), focused upon individual structures at the naval end of the site (e.g., the hospital and the kitchen). However, the discovery of additional structures in 1995 and 1997 prompted a shift in perspective. Now the area is viewed as a complex comprising of at least eight structures: the hospital, kitchen, four artificers huts, a building of unknown function, and a privy(Figure 1). These buildings are now seen as a 'community' located on the periphery of the naval base. Located as it was at the extreme south end of the naval base,this community was at various times composed of civilian personnel, newly arrived naval personnel from Drummond Island, and the naval hospital which appears to have been intentionally segregated from the rest of the naval base located some distance to the north. Evidence of native presence in the South Complex also raises the question as to whether some of the structures may have been used to shelter those groups who came to Penetanguishene, beginning in 1829, to receive the 'King's bounty' - presents for remaining loyal to the British monarch.

Current research questions involve locating and excavating these structures and mapping their location on both the modern and the 19th century landscape. Information is sought on structural elements employed in the huts since these are of interest for interpretative and possible reconstructive purposes. Questions as to the types of materials used in construction for roofing, foundations, walls, heating, windows etc. can all be answered through a careful excavation of individual structures. Detailed analyses of artifacts and stratigraphy are intended to place the material culture within the proper temporal and spatial context. Aspects of diet, refuse disposal, and trade networks, for example, can be examined through an analysis of the artifacts retrieved from structures and areas around the site. In addition, aspects of behaviour such as artifact re-use and modification arising from a shortage of raw materials; scavenging behaviour; and adaptive mechanisms employed in a harsh environment, are all avenues of inquiry that are now being pursued.

As the excavation of the South Complex continues, long-term research goals will involve an investigation of the spatial patterning on the site occurring as a result of physical and social factors. For example, the arrangement of buildings in close proximity indicates an intentional desire for propinquity which may have had some type of adaptive benefit. Historical references suggest that the South Complex was used by artificers who, being outside of the regular naval administration, may have chosen to locate close together as a means of establishing or maintaining a group identity. Other questions concern the spatial patterning of buildings within the South Complex, possibly in relation to a social hierarchy that may not be apparent in the historical sources. Indicators of status such as uniform buttons, ceramics and personal items, for example, can all be used to classify buildings (or more properly, the occupants) according to socio-economic status.

PRELUDE TO THE 1997 SEASON

Excavations in 1991 and 1993 involved the investigation of the naval hospital and the artificers' kitchen as reported in Triggs (1993; 1995). Artifacts recovered and features exposed at this time indicated that the site had undergone minimal disturbance since its abandonment in 1817. Both of these structures are located on a relatively flat

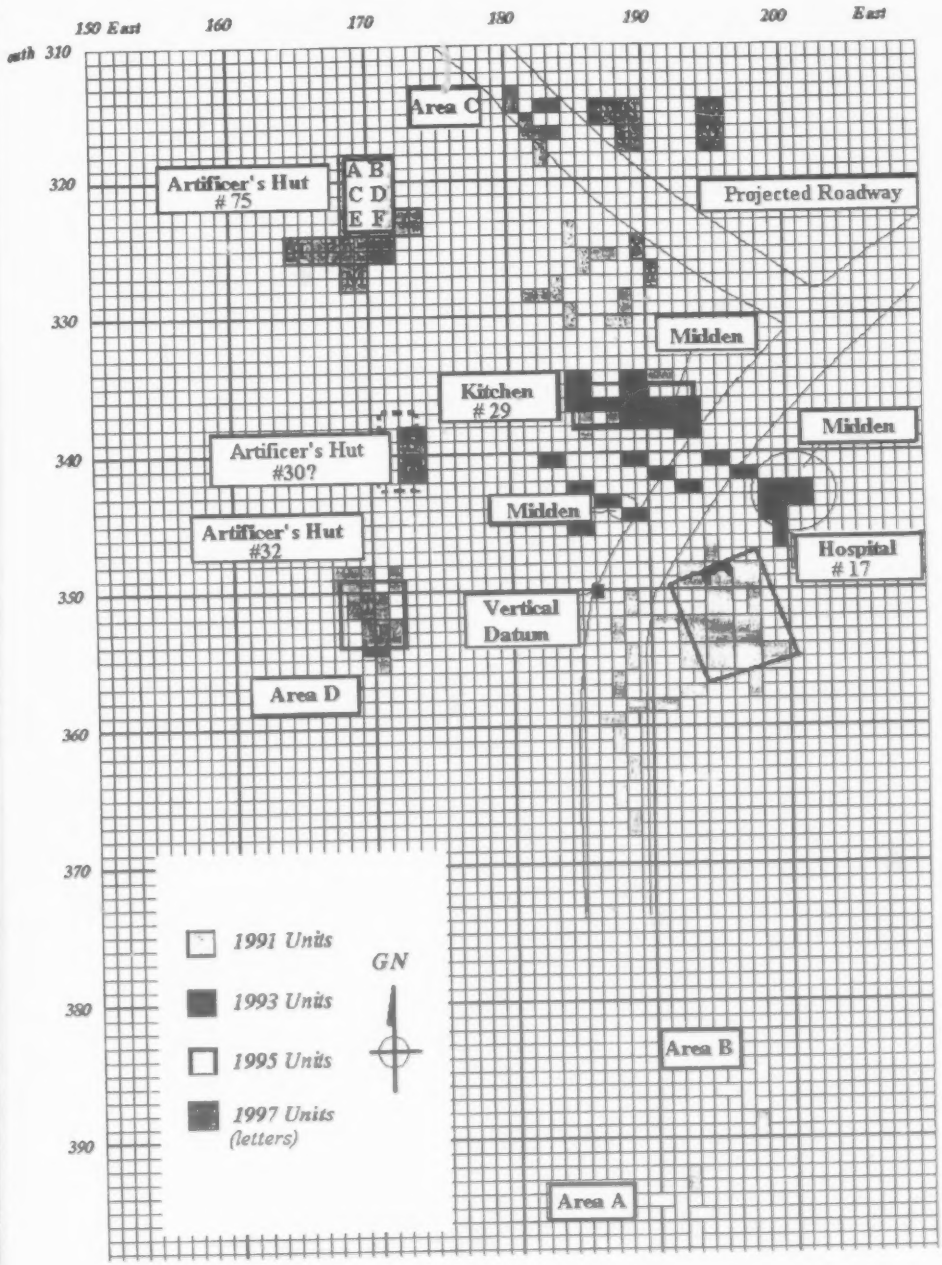

FIGURE 1. Site plan showing units excavated between 1991 and 1997 in the South Complex. Remains of five structures have been revealed to date.

plateau located some 30 metres above the lake. In 1995, a basin-like depression on the side of the slope below the hospital was chosen for investigation. Archaeological investigation of this area over a four week period revealed the presence of a stone chimney, floor pit, log walls and stone/timber foundations. Artifacts recovered to date suggest that the structure, identified as an artificer's hut on at least two maps, was inhabited later than the date suggested by the historical record; i.e., post-1828, by either an officer or artificer of some prominence.

The discovery of this structure raised the possibility of locating several others: as many as eight are indicated on various plans and sketches of the site dating from ca. 1820 to 1829. The fact that so many structures existed in close proximity suggested that artifact distributions reflecting past activities should probably be viewed not in relation to single structures but within a physically, and possibly, socially defined space. It can be supposed that the existence of a considerable number of buildings in a limited area placed constraints on activities such as refuse disposal and construction of ancillary features such as privies. Research questions concerning the use of space and the arrangement of people within the space according to social status may be profitably pursued when viewed in this type of context. Furthermore, of interest is the question of how the use of the space changed through time as some buildings were torn down and others modified and re-occupied. These types of questions are now being addressed by plotting the spatial distribution of artifact classes across the site during various periods of occupation.

THE 1997 SEASON

Excavations in 1997 continued to focus on the South Complex and the investigation of other artificers' huts. The primary focus was on a small hut referred to as structure #75 by Taylor (1977). This was excavated almost entirely over the 6 week period of the field school. Twelve 2 x 2 metre square units were excavated by 12 pairs of students (Figure 2). The structure was initially located during the first week of excavation when the removal of undergrowth revealed a slight terrace excavated into the hillside on the terrace level below the kitchen. As with structure # 32 investigated in 1995, this building measured approximately 6 metres by 3.5 metres with the long axis oriented along the slope in a north-south direction. Excavation of the hut revealed that the front of the structure (the west side facing the lake) was supported by at least four posts located on the downslope side. At the rear of the building, the hillside had been excavated such that the east wall (up-slope) was buried approximately 1 metre below grade.

Additional features found in association with the hut were a sill plate lying directly on subsoil on the east or 'up-slope' side of the structure; evidence of repair and replacement of the northwest corner support post; and a tie-back type of support for the rear of the building. The latter element consisted of a timber placed perpendicular to the rear wall, buried about 50 centimetres below grade. The function of this timber was presumably to prevent downslope movement of the rear wall caused by soil slumping. The feature appears to have been an original construction element.

There are several notable differences between this hut and structure # 32. First, structure #75 did not have a chimney as indicated by the almost complete absence of stone. Also in this regard, no evidence of an iron stove was found such as that found in association with structure #32. Second, the presence of a row of support posts on the downslope side of the structure stands in contrast to structure #32 where the same objective of levelling was accomplished by adding a loose stone foundation to bring the front of the structure to the same level as the rear. Finally, a striking difference is apparent between both structures in that structure #32 had a sizeable subfloor cellar pit while no such feature was found in association with structure #75.

Taken together these differences suggest that structure #32 was probably occupied over a longer period of time and perhaps by someone of higher status. The presence of a cellar pit together with the fireplace and an iron stove indicate a more comfortable dwelling probably occupied year-round. Although the artifact assemblage from

FIGURE 2. Excavation of artificer's hut #75 described in the report. This hut was built on an artificial terrace on the steep slope above Penetanguishene harbour. Evidence of post supports along the front of the structure (downslope) and a partially buried rear timber wall (upslope) were found during the 1997 excavation.

structure #75 remains to be analyzed in detail, the presence of several glass trade beads suggests a native occupation. Multiple occupations by several people, however, are indicated by the presence of naval and military uniform buttons. In contrast, the artifact assemblage from structure #32 included two officer's buttons and a complete absence of native items.

Two other areas were investigated during the 1997 season. Following the completion of excavation units within structure #75, a limited search was carried out to locate other structures thought to have been present in the South Complex. One of these was structure #30, presumably another artificer's hut identified on several historical sources and identified by Taylor (1977). This structure was supposed to have been constructed approximately mid-distance between structures #32 and #75 on the terrace below the hospital. Two units were placed in an area that appeared to have been excavated into the hillside. The recovery of a small assemblage of early 19th century artifacts from units S and W indicates the presence of a structure, although no definite structural remains were encountered. Judging from the appearance of the hillside, however, the hut is apparently smaller in dimensions than both structures #32 and #75. Further excavation is required to delimit the actual boundaries of the structure and to retrieve additional information on construction techniques. In addition, the collection of a larger artifact sample is necessary before comparisons can be made with other huts in the South Complex.

Continued excavation in hut #32, first begun in 1995, was carried out in two units, T and

U. These were placed on the interior of the structure in areas adjacent to units excavated two years earlier. Unit T was centred on the sub-floor cellar pit which had been partially excavated previously. In addition to the sample of artifacts recovered from the pit, the edges of the cellar were defined and the full dimensions of the cellar recorded. The cellar measures approximately 2 metres in length and about 1.5 metres in width and is approximately 40 centimetres in depth. Fill within the pit consisted of clean sand devoid of any large stones. Although the natural soil matrix in the area is a coarse grained sand, the fill within the cellar pit was not stratified in a manner that would indicate naturally occurring infilling caused by soil slump. Instead, the mixed nature of the fill and the various layers recorded inside the pit may indicate intentional infilling. If the small cellar functioned as a root cellar, this type of infilling would have served to preserve root crops and other perishable food items during the cold winter months. This type of insulation in sub-floor pits is not uncommon even today in rural settings.

The other unit in structure #32, unit U, was positioned to further expose the fireplace foundation partially uncovered in 1995. Excavation of several layers of rock collapse and sediment accumulation was carried out over a 2 week period. Although the unit was not completed, an ash and charcoal layer was exposed at the completion of excavation. Artifacts recovered from the unit included a variety of early 19th century materials consistent with the 1995 assemblage.

The last area of investigation involved a search for two structures identified as #73 and #74 (Taylor 1977). Documentary evidence indicates that these structures were probably occupied for only a short period of time. Structure #73 is thought to have been another small artificer's hut with an associated privy, structure #74. A total of seven excavation units (units N, P, Q, R, V, X, Y) were laid in an attempt to locate these structures which eluded detection in 1995 during a preliminary investigation of the area to the north of the hospital and kitchen. As in 1995, despite testing in several locations, all units yielded negative results. No early 19th century artifacts or structural remains were recovered from any of the units.

FUTURE WORK

In upcoming seasons work will focus on defining the boundaries of the South Complex by locating the elusive structures #73 and #74. Soil testing for phosphate concentrations may prove to be useful for this purpose. In addition, continued excavation in structure #30 will serve to complete the sample of all known artificers' huts in the area. Excavation in the open spaces between buildings will also be carried out in an attempt to determine how living space was used at various times in the history of the South Complex.

ACKNOWLEDGEMENTS

I wish to acknowledge the support of Dr. Dean Knight of Wilfrid Laurier University and Rosemary Vyvyan, former Curator of the Historic Naval and Military Establishments at Penetanguishene (now Discovery Harbour), without whose assistance the continuation of this project would not have been possible. Thanks are also extended to Ruth McDougall and Genevieve Brusellers the Teaching Assistants for the 1997 field school. Finally, I wish to acknowledge the participation of the students involved in the project. Although the excavation was conducted as a pedagogical exercise, the high quality of the results stands as a measure of their dedication to the project. They are to be commended for their perseverance under the many and varied rigours of field conditions.

REFERENCES

Triggs, John R.

1993. "Archaeological Investigations at the Historic Naval and Military Establishments at Penetanguishene." *Annual Archaeological Report, Ontario, (New Series)* Vol. 3, pp. 95-99.

1995. "Wilfrid Laurier Archaeological Field

School at the Historic Naval and Military Establishments at Penetanguishene." *Annual Archaeological Report, Ontario, (New Series)* Vol. 5, pp.107-111

Taylor, Ann Marie
1977. Structural History of the Naval Establishment at Penetanguishene. Research report and manuscript on file at the Historic Naval and Military Establishments at Penetanguishene.

MCMASTER UNIVERSITY ARCHAEOLOGICAL FIELD SCHOOL AT DUNDURN CASTLE: FUR TRADE ARCHAEOLOGY AND THE MISSISSAUGA AT THE HEAD-OF-THE-LAKE

JOHN R. TRIGGS

INTRODUCTION

This season, 14 students from McMaster University continued the excavation of the area referred to as Operation 12, the Beasley Complex. The instructor for the course was Dr. John Triggs assisted by Trevor Carter. As in past years the project was sponsored by McMaster University and Dundurn Castle, City of Hamilton, Department of Culture and Recreation. Excavation began on June 23 and continued for 6 weeks until August 1, 1997. During this period areas opened in 1995 and 1996 seasons were completed. The site consists of two large open pits measuring about 6 x 6 metres in each area: designated the East and West Areas. Within each large pit the depth to subsoil varies from about 1.5 metres to about 2.4 metres below the present ground surface.

HISTORICAL BACKGROUND

In 1777, at the age of 16, Richard Beasley came to the Niagara region from Albany, New York. Within only a few short years Beasley had moved to the Head-of-the Lake where he established himself as a merchant and an active participant in the fur trade. Although there is little in the way of documentary evidence relating to his first few years in operation, a significant body of correspondence dating from 1786 to the late 1820s provides important details relating to his various business ventures. As elected Magistrate of Barton Quarter Beasley's correspondence also provides information on aspects of the politics and economy of Barton Township. Various references to land disputes, road development and requests for items such as millstones provide evidence of Beasley's varied interests.

Beasley was well connected to the small number of merchants who controlled the economy of the fledgling province in the late 18th century. Richard Cartwright of Cataraqui (Kingston), arguably the single most important merchant in the province, was Richard Beasley's cousin and his main supplier. With Cartwright acting on Beasley's behalf, goods brought to Cataraqui from Montreal were forwarded to Beasley at the Head-of-the-Lake. These included a surprising array of commodities such as rum, shrouds, blankets, powder, shot, textiles (molton, ratteen, and scarlet cloth), silver works, foodstuffs (corn, flour, peas), a bellows, salt, glassware, nails, earthenware, tea and tumblers, spirits, stoves and candles. Undoubtedly, some of these goods were destined for the

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newly arrived settlers in Barton Township, but many of these items were also important commodities for the fur trade.

Furs were Beasley's primary export in his early years of operation. Muskrat, deer, wildcat, wolf, fox, marten, moose and beaver were among the furs being traded. However, as early as 1794, Beasley was admonished by Cartwright to curtail his fur trade activities because of the difficulty of selling the furs in a depressed market. Neglecting his cousin's advice, Beasley continued to ship furs to Kingston, although, as remarked upon by Cartwright, these were of poor quality. By 1800, furs disappear virtually from the shipping inventories. In the larger perspective, by the end of the 18th century the fur trade in southern Ontario was coming to a close: nearly two centuries of trapping coupled with land clearing occasioned by newly arrived settlers had resulted in a drastic reduction in the number of fur bearing animals. Not only did this signal the end of what was previously a significant portion of Beasley's commerce, but more significantly it signaled the end of a way of life for the native groups involved, specifically the Mississauga Indians.

RESEARCH OBJECTIVES

Archaeological investigation of the Beasley fur trading complex seeks to better understand the nature of the relationship between the participants in the fur trade: namely, the Mississauga natives and Richard Beasley. While Richard Beasley appears to have adopted a strategy of economic diversification to cope with the declining fur trade (Triggs 1997), the response of the Mississauga is less well studied.

The Mississauga were the dominant indigenous cultural group in southern Ontario from about 1650-1784. They were involved in the fur trade at the beginning of the 17th century but it was not until 1650 that they assumed the role once occupied by the Huron as middlemen in the fur trade. From that time onwards the Mississauga were active in the fur trade and, at various times, were allies of both the French and the English in the first half of the 18th century. Towards the end of the 18th century the Mississauga's traditional way of life was threatened and over the next few decades cultural upheaval occurred as the supply of furs in southern Ontario became depleted and direct competition for land with the newly arrived settlers meant an end to the previous semi-nomadic seasonal round. From 1786 to 1805, vast tracts of land in southern Ontario were ceded to the British crown under several treaties. By the 1820s, many Mississauga bands had become marginalized and were living on the periphery of towns such as Newark, York, and Kingston.

Between 1600 and 1850, the Mississauga underwent a drastic change in lifeway from an existence based on a seasonal round of hunting, gathering and participation in the fur trade to one characterized by a settled agricultural existence. For some, the change was weathered successfully but for others the upheavals occasioned by a shift from a fur trade economy to an agricultural economy resulted in marginalization, poverty, disease, alcoholism, and loss of tradition values. Some of the questions to be addressed in a study of the Mississauga concern the adaptive responses to this drastic change in lifeway as reflected by changing settlement patterns, religious conversion, and the gradual 'Europeanization' of the Mississauga.

1997 FIELD WORK

Beginning in the mid-19th century, a small clearing at the base of Burlington Heights, known historically as the *landing place*, was covered by successive layers of fill presumably for the purpose of creating a level and useable space. This fill essentially eradicated all evidence of Beasley's trading establishment. Recently, identification of the original ground surface in several excavation units has allowed for the reconstruction of the late 18th century topography of the area. It is now known that Beasley's house was situated on a plateau raised some 2.5 metres above lake level. The land behind his house was characterised by a gentle slope towards the actual base of Burlington Heights which then rose precipitously to an elevation some 25 metres above the landing area. The landing itself is a space about 1.5 acres in size enclosed on the west and south by Burlington Heights, on the

east by the lake, and on the north by the continuation of the plateau that runs the length of Burlington Heights in a narrow strip of land.

Evidence of prehistoric occupation is present in several layers where lithics and ceramics have been recovered. A hearth found in one unit contained thousands of small calcined bone fragments and a complete set of deer antlers. The amount of bone suggests that the area was occupied extensively over a period of time, possibly by a number of small groups who used the landing periodically as a campsite. A deposit of black sediment of unknown origin (containing some charcoal but not entirely composed of charcoal) surrounds the hearth and may be indicative of animal processing.

Occupation by native groups encamped in the area of the landing in the decades before Richard Beasley's arrival at the Head-of-the-Lake is suggested by the presence of a few European artifacts, a nail and a few glass trade beads, found in association with a large assemblage of bone fragments. Interestingly, this handful of historic period items occurs in contexts containing native ceramics and lithic debitage.

The earliest historic period occupation on the site is represented by two layers of black sediment that pre-dates the construction of the first dwelling on the site, perhaps the earliest European structure in Hamilton. This is indicated by a dry laid rubble wall foundation together with the remains of what may be a fireplace, a single floorboard and cellar pit. Two walls running perpendicular to the foundation indicate that the structure measured about 5 metres on one side. A clay-lined cellar pit found inside the structure close to the foundation is of a size typically associated with a domestic structure. Artifacts found in the cellar pit fill include dozens of glass trade beads, a musket lockplate and 18th century ceramics such as white salt-glazed stoneware, and refined red stoneware known as 'rosso antico'.

Layers of rubble and architectural debris suggest that this dwelling may have been torn down c.1813 when British troops arrived at Burlington Heights. These layers contain building rubble and artifacts such as brick, window glass, nails, and architectural hardware in addition to domestic items and fur trade materials.

Following the destruction of Beasley's dwelling another building was erected in the same location. Evidence is found in the form of sub-floor sleeper trenches running at an angle to the former building. The structure may be military in origin since it corresponds in orientation to two buildings depicted on an 1813 military map of Burlington Heights. However, only a single military artifact, a sideplate from an India pattern musket, was recovered from one of the several contexts that date to this phase. The building appears to have been destroyed after 1823 since it is depicted on a map of this date.

With the destruction of the building the site was used for agricultural purposes as indicated by plough scars found in all units, cutting through the upper layers of fill. Dozens of shotgun shell casings found in this layer, marked 'ELY' support a date of the 1840s.

In the second half of the nineteenth century two fill deposits buried the site deeper still. The lower cobble fill may date to 1847 when Sir Allan MacNab apparently dumped fill into the landing during renovations to the Castle. The upper fill deposits may be related to the extensive landscaping which took place on the Dundurn grounds in the final decades of the 19th century.

ARTIFACTS

The variety of trade goods and other artifacts dating from the late 18th and early 19th century provides some insight into the material that Beasley was stocking and trading to the Mississauga. Most numerous of all trade items are the glass beads found in several contexts. These have been typed according to Kenneth and Martha Kidd's (1970) bead typology and include varieties within types I-IV. Types I and III are tubular in shape while II and IV have been rounded by heating and abrasion. Beads in I and II are simple, while III and IV are layered and are therefore considered to be compound beads. Of the 2107 beads recovered, 49% are black tubular beads (Type Ia2) and 30% are white tubular beads. Type II rounded beads (white) comprise 16% of the assemblage. The remainder include a

few examples of types III and IV as well as wire wound beads (Type WIc1), five wampum (shell) beads, 2 ceramic beads and a tiny multi-faceted copper bead.

Other items include several pieces of trade silver such as earbobs, tinkling cones, clasps, brooches, and earrings. Trade silver became increasingly common after 1760 and much of the silver found on fur trade sites was manufactured in Pennsylvania, Montreal, Quebec and Albany. The earbobs are similar to the type described by Stone (1974) in connection with Fort Michilimackinac where, interestingly, they are ascribed to the French occupation. Brooches are predominantly the simple oval style with a single clasp. Two heart-shaped brooches were also recovered. Earrings are circular wire loops some of which have a hollow knob attached. Tinkling cones are fully enclosed cones with bases and a small wire ring for attachment to garments.

Other items include tin-plated brass pins with wound wire heads; brass thimbles, some of which have been perforated for use as tinkling cones and finger rings; copper janglers and tinkling cones; hawk bells, dismantled and worn as jewellery; and various pieces of scrap copper. Firearms and related equipment include a modified trade musket sideplate with the typical dragon motif which had been cut to resemble a culturally relevant snake motif (Reid 1978). Numerous spall type gun flints, musket balls and thousands of pieces of lead shot complete the firearms assemblage. A few lead bale seals (which were sometimes clipped and used as jewellery) were also found as were pieces of copper wire and rings possibly for snares, a copper kettle lug and several bone awls.

All of these items are commonly associated with the 18th century fur trade and are found on sites as distant as Alberta and Minnesota (1982); Mason (1986); Pyszczyk (1997). The widespread distribution of similar items over a relatively brief period of time distinguishes the fur trade as a 'horizon' in archaeological terminology. This fur trade horizon can be expected to show regional variation according to the preferences of different native groups for specific items. A comparative search of the literature for this purpose represents the next step in the research and the first step in defining the archaeological visibility of the Mississauga in the area bordering the north shore of Lake Ontario from the beginning of the 18th century to the early decades of the 19th century.

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REFERENCES

Gilman, Carolyn
1982. *Where Two Worlds Meet - The Great Lakes Fur Trade*. The Minnesota Historical Society, St. Paul, Minnesota.

Kidd, Kenneth and Martha Kidd
1970. *A Classification System for Glass Beads for the Use of Field Archaeologists*. Canadian Historic Sites: Occasional Papers in Archaeology and History No. 1. Information Canada, Ottawa.

Mason, Ronald J.
1986. "Rock Island - Historical Indian Archaeology." In Northern Lake Michigan Basin in *Mid-Continental Journal of Archaeology*

Special Paper No. 6, Kent State University Press.

Pyszczyk, Heinz W.
1997. "The Use of Fur Trade Goods by the Plains Indians, Central and Southern Alberta, Canada." *Canadian Journal of Archaeology*, vol. 21, pp. 45-84.

Reid, C.S.
1978. "The Dragon Sideplate: its Origins, Variations, and Chronologies on Fur Trade Sites." *Ontario Archaeology* No. 30, pp. 3-16.

Stone, Lyle M.
1974. *Fort Michilimackinac 1715-1781: An Archaeological Perspective on the Revolutionary Frontier.* Michigan State University. East Lansing, Michigan.

Triggs, John R.
1997. "McMaster University Archaeological Field School at Dundurn Castle: Fur Trade Archaeology at the Head-of-the-Lake." *Annual Archaeological Report, Ontario, (New Series)* Vol. 8, pp. 73-79.

REPORT ON THE 1997 EXCAVATIONS AT THE FORSTER SITE (AGGX-134), CALEDONIA, ONTARIO

JEFFREY A. BURSEY AND D.G. SMITH

As previously reported (Bursey *et al.* 1998), the Forster site (AgGx-134) is a multi-component site located on a terrace approximately 100 metres south of the Grand River. Excavations were initially undertaken at the site to investigate the Early Late Woodland, Glen Meyer occupation but also to explore the possibility of an earlier, Princess Point occupation. While abundant artifactual and settlement pattern data had been recovered representing the later occupation, AMS dated to 840 +/- 90 BP or A.D. 1220 (calibrated), only a few sherds recovered during surface collections represent the earlier Iroquoian occupation.

Over the winter of 1996/1997, the Forsters planned to sever the current house and build a newer home on portions of the property currently being used as garden. Since the new structure would be placed on portions of the property that had not been previously investigated but had produced abundant surface artifacts, it was decided to concentrate investigations in this area in order to salvage as much information as possible prior to construction, anticipated in mid-summer. During the excavations, the placement of the new house was shifted (grid) northeast of the original planned placement and the excavation was shifted accordingly. Excavation was located between 30 and 45 metres west of the west edge of excavations during the 1995 and 1996 field seasons and between 5 and 20 metres south of the edge of terrace. Excavation commenced at the beginning of April and concluded at the beginning of July when it was determined that the soil had become too dry to observe settlement patterns, despite the use of water sprayers, and it was learned the Forsters would not be able to construct their new house as planned.

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Excavation methodology essentially followed that of the previous seasons with two exceptions. First, in order to speed the field work, 1/4" mesh was employed for the screening of ploughzone, rather than the 1/8" mesh previously used. While much archaeological data was thus lost as a result of this decision, in light of the limited time and resources available, it was deemed the lesser of two evils. Secondly, initially screens were "hand-picked" but when it was determined that this process was slower and artifact recovery was highly variable, based on crew member experience, patience and evaluation of "significance", it was decided to revert to the previous technique of bagging screen residue for floatation. Ultimately, 148 square metres were excavated, entirely with volunteer labour.

As in previous years, abundant evidence of Archaic occupations, in the form of diagnostic projectile points, were recovered from the ploughzone. Ultimately this material will be

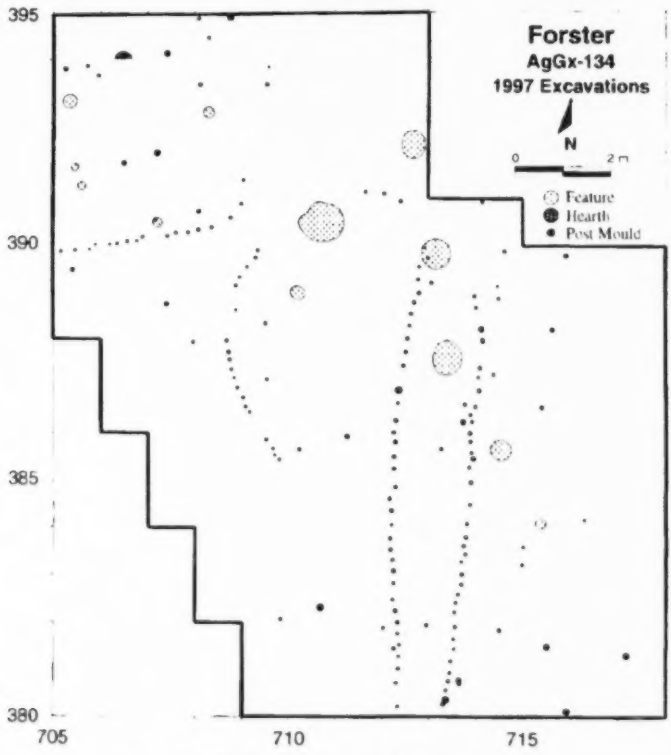

Figure 1. 1997 Settlement Pattern at Forster (AgGx-134)

analyzed and added to our slowly growing data base documenting the abundant preceramic occupation of the Grand River.

The most interesting data recovered, however, was in the form of settlement patterns and other residue from both the Glen Meyer and Princess Point time periods. Evidence relating to the Glen Meyer occupation was confined to a number of small, apparently randomly spaced pits and approximately ten metres of a double row palisade. Posts from the latter were closely spaced with the rows placed two to three metres apart. Interestingly, a series of additional posts was recorded spaced between three and four metres apart and two to three metres inside (east) of the palisade. Initially some doubt was expressed about the validity of these posts because they extended only one or two centimetres into the subsoil. This evaluation was re-assessed, however, when their regular placement was noted. The hypothesis now favoured is that these posts may have been buttresses placed diagonally into the ground, and hence less deeply into the subsoil, in order to support the palisade.

Of greater interest, however, was substantial evidence relating to a Princess Point occupation of the site. In the northwestern corner of the excavation area, a pattern of posts and features appears to relate to the corner of a relatively well preserved house. While the area of house floor excavated to date is not overly rich in preserved features, some small pits and one hearth were observed as well as a number of presumed bunk line and support posts. While the amount of diagnostic pottery recovered thus far is not overwhelming, what there is appears to be attributable to the

Princess Point period.

Of greater interest is a sub-circular structure measuring approximately six metres in diameter. This structure is located approximately one metre to the southeast of the possible longhouse and partially overlapped by the palisade lines. Posts were extremely faint and, indeed, were initially overlooked. Accordingly, gaps in the circumference of this structure are as likely to be the result of poor visibility as entrances. None-the-less, some possible interior support posts, particularly inside the west wall, were recorded in addition to four features.

While the smaller of the four features was relatively uninteresting, the three larger pits were quite productive. The two eastern pits measured 65 centimetres in diameter and 40 centimetres in depth and had three layers of pit fill. One pit was basin shaped while the second had straight sides and a flat bottom with the fill mounded in the centre. Evidence of slumping of one wall was also observed in the profile of this pit. The larger, more northern, pit measured 90 centimetres in diameter and 65 centimetres in depth below ploughzone and had five major fill layers plus two apparent slumps layers along the sides between the upper three layers. The bottoms of the two smaller pits were lined with unmodified cobbles while the larger pit had a layer of fire-cracked rock, a rock slab measuring 50 by 22 centimetres, and a large number of pottery sherds approximately mid-way down the pit profile. These pits are interpreted as large storage pits, the bottoms of which were lined with rocks and pottery. Reuse of these pits through at least three stages appears likely with the rock lining thus moving "up" with each subsequent stage of reuse.

Included within the pits were substantial amounts of refuse. Relatively well preserved faunal remains included both large mammal and abundant fish bones. Carbonized plant remains include corn. One kernel fragment from the larger pit was AMS dated to A.D. 780 (890) 1005 cal (TO-7039). Abundant pottery was recovered from all three pits including approximately 2/3 of a complete vessel from the larger pit. Interestingly, another vessel recovered appears to be "slip-roughened" with a sandy paste applied over the corded surface and subsequently fired. Lithic artifacts include debitage and utilized flakes but no formal tools.

Analysis of the Forster site materials is ongoing and will be included in several graduate theses and dissertations. Should the house and round structure prove contemporaneous, a question which will be addressed with future AMS dating, it will provide new insights into Princess Point settlement/subsistence systems. Since the lack of a hearth from within the round structure is not considered to be a result of differential preservation, it would appear this structure represents a storage facility which was reused for a number of seasons. The association of a house and storage structure would thus suggest this site was a settlement-type not previously documented for the Princess Point time period.

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REFERENCES

Bursey, J. A., D. G. Smith and G. W. Crawford
1998. "Report on the Investigations of the Forster Site (AgGx-134), Caledonia, Ontario." *Annual Archaeological Report, Ontario (New Series)* 5:80-83.

LOWER GRAND RIVER BARS AND TERRACES: THE 1997 PRINCESS POINT PROJECT FIELD SEASON

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FRANK A. DIETERMAN AND TREVOR L. ORMEROD

INTRODUCTION

The 1997 field season marked the inaugural year of the second phase of the University of Toronto's SSHRC sponsored Princess Point project. Since 1993, we have been exploring several aspects of Princess Point, including the origins of maize (Zea mays) horticulture in southern Ontario, paleoethnobotany, settlement systems, geoarchaeology, stone tool production and use, and studies on ceramic attributes (Bekerman 1995; Bowyer 1995; Crawford and Smith 1996; 1997; Crawford et al. 1997, Crawford et al. 1998; Dieterman 1997; Ormerod 1994; Shen 1997; Snow 1995; Walker et al. 1998). The 1997 field season primarily involved survey and testing to begin a more broadly based assessment of interpretations developed during the first phase of our research (1993-1996). Our plan focused on the interactions of Princess Point people with their environment, particularly the riverine system, at the onset of plant husbandry in Ontario. One important aspect of this issue is the nature of the settlements at this time in the lower Grand River valley. Another issue involves the documentation of artifact assemblages in the context of discrete contexts-pits, hearths, houses, and the like. To date, few such contexts have been documented in the lower Grand River Princess Point.

Our geographical focus continues to encompass a 15 kilometre stretch of the Grand River between Cayuga and Caledonia. We are paying close attention to the 8 kilometre portion of the Grand River from Cayuga to York where there are 12 of the eighty-odd Princess Point sites registered to date (Figure 1). Eight of the 12 sites are located on river bars, four are located on terraces and one is an upland, hinterland, site. The sites form two general clusters. One is near Cayuga while the other is in the vicinity of the 19th century settlement of Indiana (Figure 1). Our work on Princess Point sites during the 1997 field season concentrated on testing the CNR Bridge and Meyer sites. In addition three previously unknown Princess Point sites near Meyer (Bell Terrace, Bell Flats, and Armstrong Flats) were identified. These were also tested, but not extensively. Furthermore, a survey by canoe of both banks of the Grand River from the town of Caledonia to the Cayuga and Canborough township line was conducted, as well as several pedestrian surveys.

The Grand River between Cayuga and Caledonia is a single channel river situated in an entrenched river valley. The width of the river varies between 75 and 200 metres (Walker et al. 1998). Present-day floodplains are primarily accreted lateral bars and point bars composed of river silts and sands (Crawford et al. 1998).

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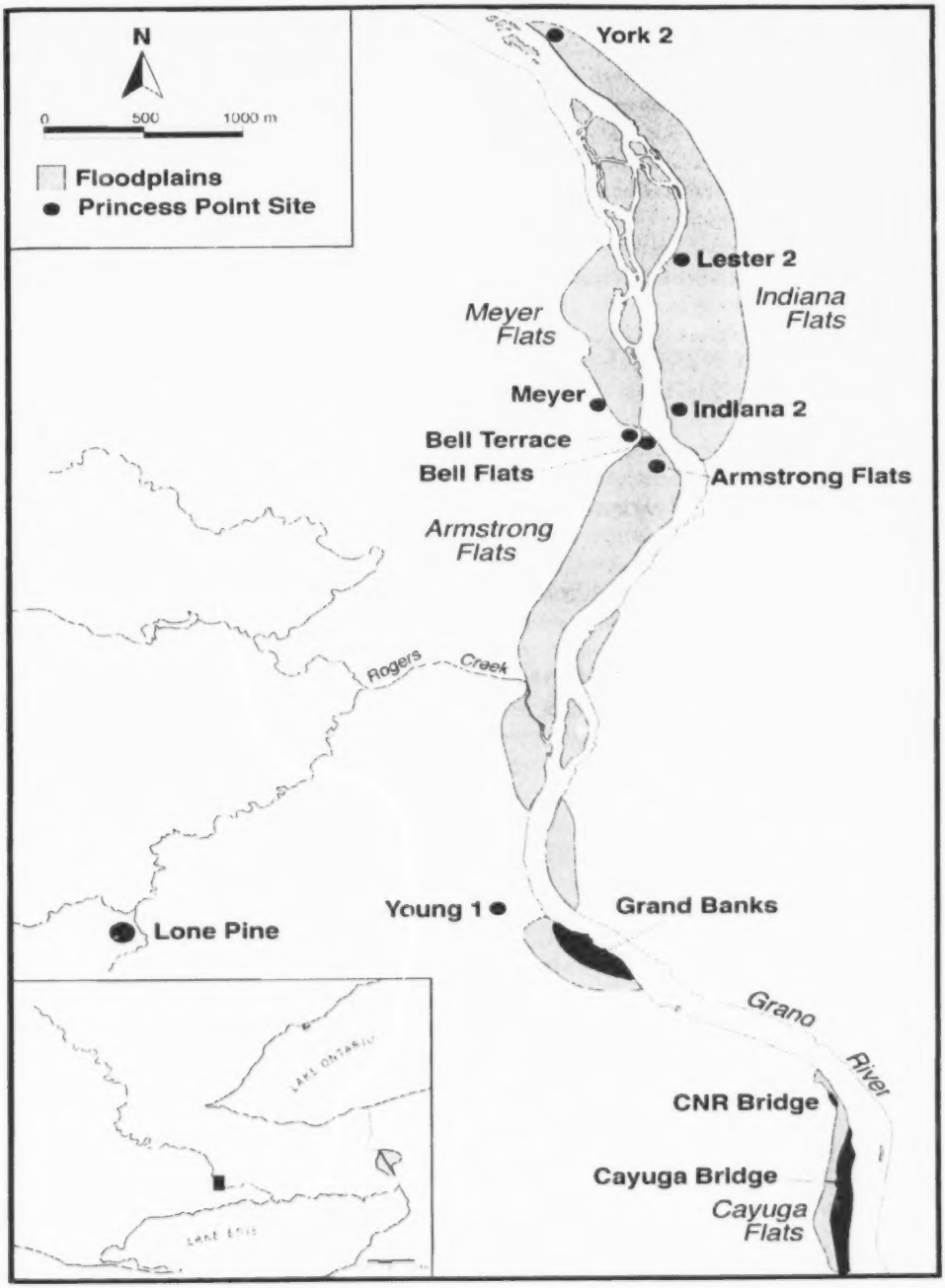

FIGURE 1. Princess Point Sites near Cayuga in the Lower Grand River Valley

Floodplains, or river bars, within the study area vary in size and extent. Eight small bars average 100 metres long and 20 metres wide, nine medium sized bars measure from about 750 to 1500 metres by 125 to 200 metres, and a single large bar measures nearly 2,600 metres by 500 metres. Terraces are set back between 20 to 500 metres from the river. Terrace height ranges from a few metres to over 20 metres. The soils for the river terrace sites are a base of moderately well-drained Smithville heavy clay, overlain by surface horizons of silty clay or silty clay loam varying from 10-30 centimetres in thickness (Presant and Acton 1984:47). River bar sites are situated on imperfectly or poorly drained alluvial soils (Presant and Acton 1984:31).

The 1997 fieldwork found evidence of clearly defined paleosols in bar locales, in addition to the Grand Banks paleosol documented previously (Crawford et al. 1998). Historic and anecdotal evidence from our study area document that the original river road was built on the river bar in the mid-nineteenth century and was moved up to the terrace only after the forests had been cleared by the 1870s. A transportation canal (Grand River Transportation Company circa 1850s) was built on the large river bar to bypass narrow straits around upstream islands. One resident recalled that his grandfather observed that the river flats never flooded in the early 1800s until the forests were cut back (Colin Bell, pers. comm. 1997). Today, floods of sufficient magnitude to flood the Grand Banks site (and therefore other river bars in the vicinity) occur, on average, every 1.8 years. There were at least 32 one to three day floods between 1914 and 1990 (Walker et al. 1998). The now abandoned settlement of Indiana, dating from the 1840s, was situated on a large floodplain, presumably because, at the time, there was a much lower risk of flooding.

TERRACE LOCALES

MEYER SITE

The Meyer site (AfGx-26) is located on a twenty metre terrace overlooking a medium-sized bar (Figures 1 and 2). This site was registered in 1974 as a multicomponent Princess Point and Late Woodland Iroquoian site. Fieldwork in 1997 consisted of 110 gridded 10 metre interval shovel test pits over the majority of the terrace (bounded by property fences) and the excavation of a 2 metre unit in an area of dense artifact distribution. The soils at this locale varied from fine sandy clay mixture to heavier clays and loams, with an overburden of 15 centimetres of humus at the north end of the site and significantly less at the south end. Artifacts were recovered in nearly every test pit including chipped lithics, faunal material, and ceramics, with cord-wrapped stick decorated pottery representing over 95% of the recovered diagnostic ceramics. Artifact frequencies in test pits ranged from one to two flakes, or a single ceramic sherd, to well over 500 artifacts in the northern portion of the terrace property. A total of 17,348 artifacts were recovered from the 2 metre test unit. The majority of identifiable are representative of Princess Point. Two glass beads typical of Neutral occupations were recovered from the southern portion of Meyer. In addition, a paleosol is present on the river bar below the Meyer site, visible at the present water line approximately 2.5 metres below the current river bar surface.

BELL TERRACE SITE

The Bell Terrace site is a newly found site located on top of a terrace approximately 200 metres south of the Meyer site (Figures 1 and 3). The locale represents a segment of the terrace that forms a point towards the river, effectively pinching the bar into two separate flats. This past summer's fieldwork included 32 gridded shovel test pits on the terrace around the outbuildings and gardens and the excavation of a 2 metre unit. The soil at this locale was predominantly a fine sandy loam overlying a heavier clay subsoil with an overburden of 10 centimetre of humus. Artifacts were recovered in a majority of the test pits including chipped lithics, cord-wrapped stick decorated pottery, faunal material, and historic European materials. Artifact frequencies ranged from two to three artifacts to over fifty artifacts per test pit. The 2 metre test unit recovered similar material along with subsurface features including two pits containing

diagnostic Princess Point ceramics.

RIVER BAR LOCALES

BELL FLATS SITE

The Bell Flats site is a new site located on the narrow section of the pinched river flat at the base of a terrace (Figures 1 and 3). The site is directly below the Bell Terrace site, and is situated within 50 metres of the Grand River. Fieldwork at this locale consisted of limited activities conducted on the river bar, surface collecting a small area of the meadow that has exposed soils and 4 gridded 10 metre interval shovel test pits. The soils comprise a 40 centimetre cap of alluvium overlying a dark brown paleosol containing numerous artifacts underlain by a yellow-brown subsoil. Artifacts were recovered in all test pits with frequencies in the 20 to 40 artifact range. Unlike the Bell Terrace site on the terrace, historic contamination of the Bell Flats site is minimal, based on very limited investigation. The presence of cordmarked pottery is significant in that it marks the site as no later an occupation than Princess Point based on ceramic artifacts recovered to date.

ARMSTRONG FLATS

Armstrong Flats is a newly discovered site situated approximately 250 metres south of Bell Flats (Figures 1). Recent alluvial deposition has created a smaller and lower second river bar in this location. After a scatter of lithics was recovered from recent erosion of the higher bar, a series of eight test pits were placed on the Armstrong flats. The higher bar has a paleosol at a depth of approximately 40 centimetres, from which artifacts were recovered. Surface collected and test pit artifacts include chipped lithic material, ceramic sherds and a few faunal elements. The ceramics are primarily plain body sherds; however, a single cord-wrapped stick decorated sherd was recovered.

CNR BRIDGE SITE

The CNR Bridge site (AfGx-5) is situated on the northern limit of a medium-sized bar (Figures 1 and 4). A second Princess Point site, Cayuga Bridge, is situated to the south on the same river bar. The field crew dug 58 gridded 10 metre interval shovel test pits over the majority of the northern end of the river flat. The soils at this site were predominantly clay with an overburden of 15 to 20 centimetres of humus. Closer to the river, a thick alluvial deposit was encountered to depths of over 80 centimetres. Artifacts were recovered in a majority of the test pits; lithics (flakes and debitage), cord-wrapped stick marked pottery, and faunal material. Frequencies ranged from one to two flakes to over 60 artifacts per unit. The majority of artifacts recovered are chipped stone. Artifacts included 9 core fragments, a stone pipe fragment, and a small collection of tools including a drill tip, 3 projectile point midsections, and a scraper. A single decorated rim sherd was identified from the 55 ceramics. The appearance of two paleosols was noted in some of the test pits at the southern extent of our excavations. An artifact bearing paleosol was found at 40 to 60 centimetres below surface, and a second sterile (to date) paleosol at 80 centimetres. A 2 metre test unit, excavated in an area without a paleosol, recovered numerous artifacts but failed to recover any subsurface features.

INTERPRETATIONS

Recent and on-going research suggests a more complex settlement system for Princess Point than predicted some twenty-five years ago, and continues to demonstrate the importance and popularity of both terrace sites and river bar locales to the Princess Point Complex. With reference to river bar locales, it is noteworthy that these locations were also occupied during the preceding Middle Woodland period of this area, as evidenced by sites like Roger's Creek (AfGx-24) and Tuscarora (AgGx-14), but that they were less popular habitation types in the overall settlement system than that observed for Princess Point (Ormerod 1997). Middle Woodland populations tended to prefer sites located adjacent to wetlands, particularly along creeks and rivers, as evidenced by the large cluster of Middle Woodland sites at the mouth of the Grand River. This difference in the settlement systems of Middle Woodland and Late Woodland groups has also

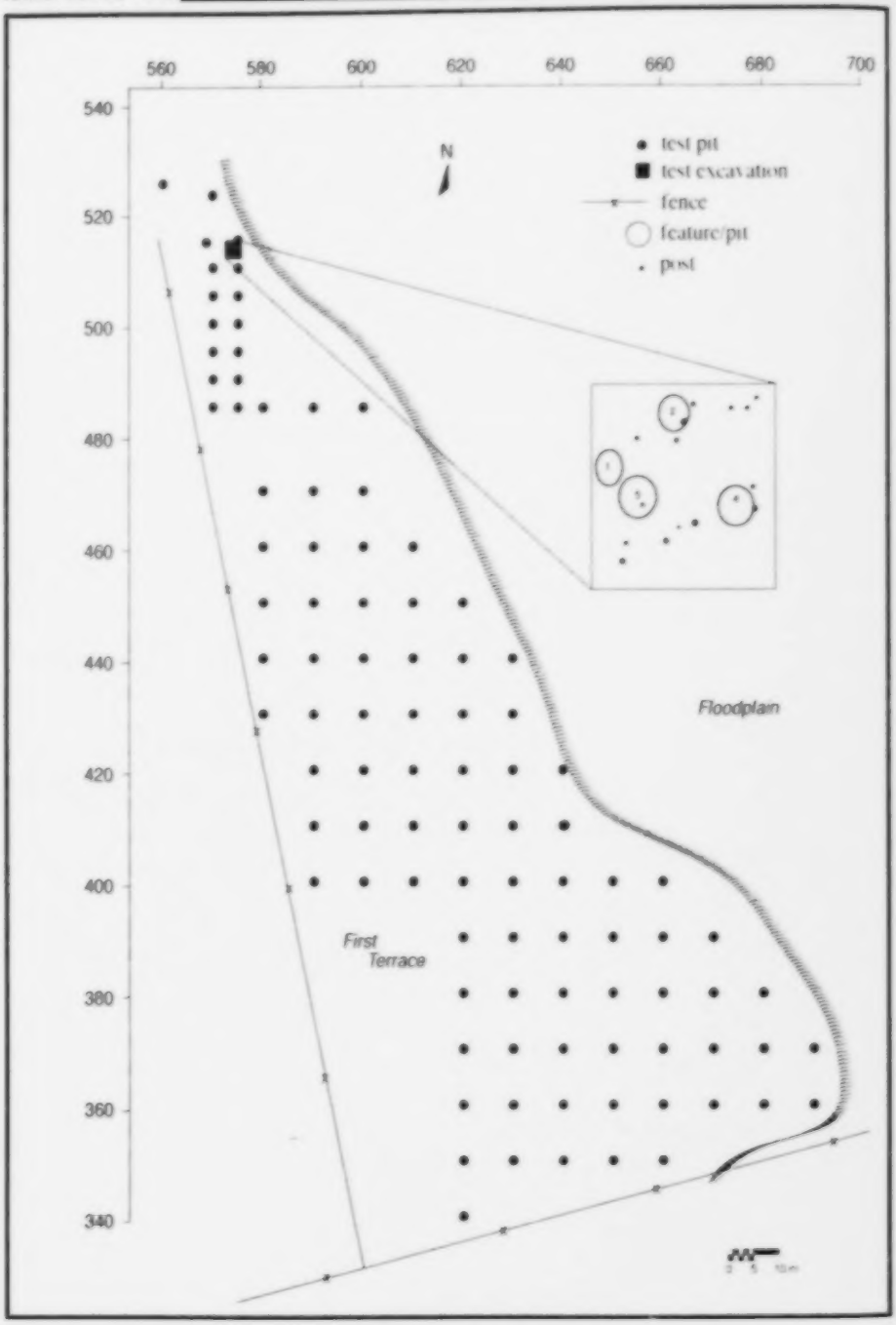

FIGURE 2. The Meyer Site

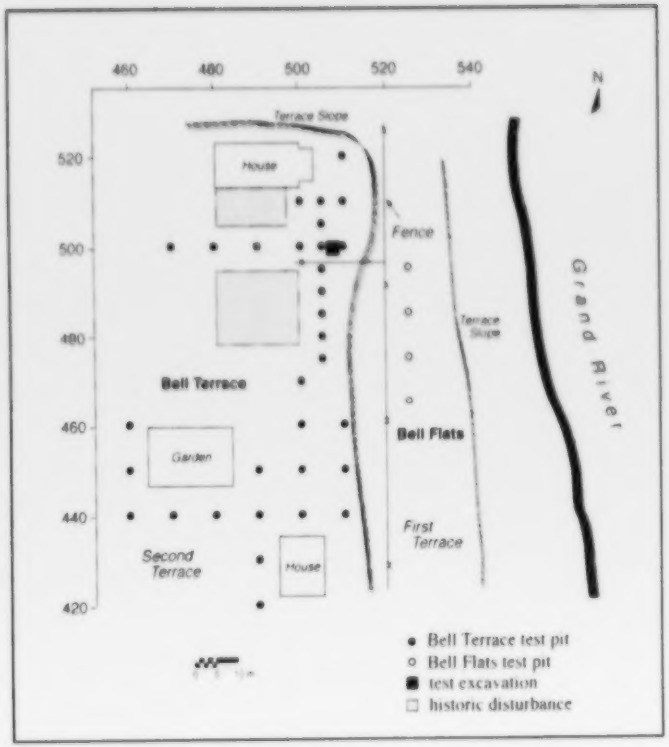

FIGURE 3. Bell Terrace and Bell Flats

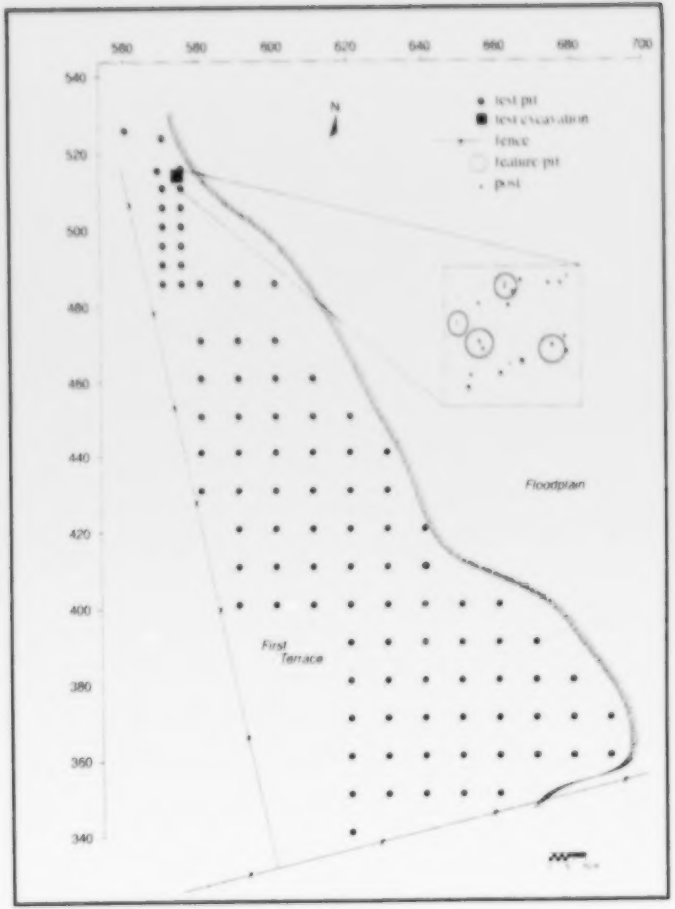

FIGURE 4. CNR Bridge

been observed in other parts of northeastern North America. In the lower/middle Delaware Valley, Stewart (1990) notes a changing preference from fresh water tidal marshes during the Middle Woodland period to river bars during the early Late Woodland period.

Reasons for the importance of river bar locations to Princess Point groups may be linked to any number of factors. In the Ohio Valley, Muller (1987) has argued that a shift from upland locations to lowland locations during Mississippian times is possibly linked to a combination of climatic, social, and cultural material changes. He also suggests that continued competition between groups occupying these lowlands led to more or less permanent occupation of these locales. While this pattern has yet to be established for the Grand Valley, it may offer some direction for future interpretations.

Excavations at terrace sites have elaborated our knowledge of these locales and have also strengthened their importance in the Princess Point settlement system as a habitation type. Our previous work at Young 1 suggested that terrace locales were both small in size and short-term in duration of occupation. This past summer's work at Bell Terrace and Meyer, however, has revealed that the pattern for terrace sites is more complex than originally proposed. Artifact density and their extent, combined with the recovery of settlement patterns attest to a longer and perhaps repeated occupation for terrace sites such as Meyer.

CONCLUSIONS

Excavations at six Princess Point sites in 1997 have shed much needed light on the question of settlement systems for this group. The Meyer and Bell Terrace sites represent large terrace locales of dense artifact distribution, complete with post moulds, pit features, an extensive faunal sample, and a large quantity of flotation samples. The discovery of two new sites on river bars coupled with the recovery of equally extensive artifact distributions from the Bell Flats, Armstrong Flats and CNR Bridge sites on river bars, mirrors and expands the evidence collected previously from the Grand Banks site. Further research is needed to update the Princess Point settlement system to reflect a more complex system oriented towards a combination of stable river bar and terrace locales. A more detailed explanation will be possible once artifact, faunal and botanical collections have been analysed over the coming months and additional fieldwork is carried out next summer.

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REFERENCES

Bekerman, A.
1995 Relative Chronology of Princess Point Sites. M.Sc., Department of Anthropology, University of Toronto, Toronto.

Bowyer, V.E.
1995. Paleoethnobotanical Analysis of Two Princess Point Sites: Grand Banks (AfGx-3) and Lone Pine (AfGx-113) in the Grand River Area. M.Sc., Department of Anthropology, University of Toronto, Toronto.

Crawford, G.W. and D.G. Smith
1996. "Migration in prehistory: Princess Point and the Northern Iroquoian case". *American Antiquity* 61:782-790.

1997. "Recent Developments in the Archaeology of the Princess Point Complex in Southern Ontario". *Canadian Journal of Archaeology* 21:9-32.

Crawford, G.W., D.G. Smith and V.E. Bowyer
1997. "Dating the entry of corn (Zea mays) into the lower Great Lakes region". *American Antiquity* 62:112-119.

Crawford, G.W., D.G. Smith, J.R. Desloges and A.M. Davis
1998. "Floodplains and agricultural origins: a case study in south-central Ontario, Canada". *The Journal of Field Archaeology* 25(2):123-137.

Dieterman, F.
1997. Space, Place and Landscape: Dynamic Modelling of Cultural Preferences for Site Selection. Paper presented at the Canadian Archaeological Association 30th Annual Meeting, Saskatoon, SA.

Muller, J.
1987. "Lower Ohio Valley Emergent Horticulture and Mississippian". In *Emergent Horticultural Economies of the Eastern Woodlands*, edited by W. F. Keegan, pp. 243-273. Center for Archaeological Investigations Southern Illinois University at Carbondale, Occasional Paper No. 7.

Ormerod, T.
1994. The Lone Pine Flaked Lithic Aggregate: Behavioural Implications for a Transitional Woodland Site. M.Sc., Department of Anthropology, University of Toronto, Toronto.

1997. The Middle to Late Woodland Transition in Southern Ontario: Migration or In Situ Development? Paper presented at the 62nd Annual Meeting of the Society for American Archaeology, Nashville, Tennessee.

Presant, E.W. and C.J. Acton
1984. *Soils of the Regional Municipality of Haldimand-Norfolk*, Vol. 1. Report No. 57 of the Ontario Institute of Pedology. Land Resource Research Institute, Research Branch, Agriculture Canada, Guelph.

Shen, C.
1997. Towards a Comprehensive Understanding of the Lithic Production System of the Princess Point Complex, Southwestern Ontario. Ph.D. dissertation, Department of Anthropology, University of Toronto, Toronto.

Snow, D.R.
1995. "Migration in prehistory: the Northern Iroquoian case". *American Antiquity* 60:59-79.

Spence, M.W., R.H. Pihl and C. Murphy
1990. "Cultural complexes of the Early and Middle Woodland periods". In *The Archaeology of Southern Ontario to A.D. 1650*, edited by C.J. Ellis and N. Ferris, pp. 125-170. Occasional Publications of the London Chapter, Ontario Archaeological Society Inc., Publication No. 5, London.

Stewart, R.M.
1990. "The Middle to Late Woodland transition in the Lower/Middle Delaware Valley". *North American Archaeologist* 11:231-254.

Stothers, D.M.
1977. *The Princess Point Complex*. National Museum of Man, Archaeological Survey of Canada, Mercury Series No. 58, Ottawa.

Walker, I.J., J. R. Desloges, G. W. Crawford and D.G. Smith
1998. "Floodplain formation process and archaeological implications at the Grand Banks site, lower Grand River, southern Ontario". *Geoarchaeology* 12(8):865-887.

A LATE PALEOINDIAN CEREMONIAL CACHE FROM THE CARADOC SITE (AfHJ-104) IN SOUTHWESTERN ONTARIO

D. BRIAN DELLER* AND CHRISTOPHER J. ELLIS

During the late spring of 1997 a local resident, Mr. James MacLeod, brought to our attention a number of heavily weathered Bayport chert artifacts which he had found on the surface of a newly cleared and cultivated field just southeast of Strathroy, Ontario. The raw material on which the tools were made is one most favoured on Paleo-Indian sites in the southwestern part of the province, and this fact, along with the presence of large biface and large side scraper fragments, led us to strongly suspect this was a Paleo-Indian site. Subsequent examination of the site surface recovered a lanceolate point of a form somewhat intermediate between that of Holcombe (Fitting et al. 1966) and Hi-Lo (Fitting 1963) points (Figure 1d), as well as a number of other tool fragments, which left no doubt as to the Paleo-Indian affiliation of the site and which allow us to date the site to around 10,400 to 10,000 B.P. (see Ellis and Deller 1990). Of special interest was that there seemed to be little or no flaking debris at the site, that there was no evidence of any post-Paleo-Indian occupations, and that the vast majority of the artifacts from the site had been purposefully broken by one, or more rarely two or three, blows to their surfaces (Figure 2a and 2b). Since the site had just been broken up for cultivation, and since ploughed fields in the area are easily deflated by wind and water action, it was recognized that it was imperative to test the site while it still had maximum integrity and to find out if it still had intact (that is undisturbed by ploughing) deposits. If extensive intact deposits, including possible subsoil features, were discovered, then plans to carry out more extensive excavations in the future would focus on those intact deposits.

Test excavations were carried out at the Caradoc site (AfHj-104), over a week in August 1997. A contiguous area of some 35m^2 was excavated and, including the original unprovenanced finds from the site, some 286 artifact fragments were recovered which fit together to form an estimated 60+ artifacts. The actual total number of artifacts is estimated as several pieces are missing. It is strongly suspected that the missing pieces are in areas beyond the area test-excavated as well as beneath the site, having been deeply intruded into the subsoil beyond the shallow depths to which test excavations in most squares was taken. Nonetheless, density plottings suggest there was only one main artifact concentration at the site which seems to have been mainly in an area about 12m^2.

No definitive evidence of any material in situ below the ploughzone itself was found. The few items which were in the subsoil seem to have been clearly intruded by root, rodent and other natural processes. The pit(s) into which the items may have been placed must have been very shallow as the ploughzone was as thin as 10 centimetres in some places and there is evidence to sug-

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est the site surface had not been heavily deflated r eroded in the past. In fact, the artifacts may not ave been left in pits at all but simply left on the rface. Refitting of purposefully broken artifact agments reveals that most pieces of each item re in close juxtaposition. Nonetheless, different parate refitted artifacts, each made up of as many s three or more pieces, could be separated from ne another by as much as 3 to 4 metres or over a irly wide area. Since it is unlikely ploughing or nd clearing activities would have moved all inividual pieces of the same artifact to the same eneral location, there is a clear suggestion here hat the material as a whole was initially distribted over a relatively large area, lessening the posbility the material was initially in one pit. It may ave even have been inside some sort of surface tructure although no positive evidence to support his interpretation was found, other than the fact he material as a whole drops off quite abruptly in ensity at its margins.

The artifact recoveries from the site are all thic items, and besides the projectile point menoned above, include at a minimum: thirteen nfinished large ovate bifaces (Figure 1a,2a); sevnteen unfinished smaller bifaces with more parllel sides (Figure 1b); three refined finished biface ols including the tip of an apparent large alterately beveled biface knife (see Deller and Ellis 984; Ellis and Deller 1988 for comparable examles from several fluted point sites) and a comlete lanceolate "knife" (Figure 1c); three large ouble convex side scrapers, which duplicate exctly, forms seen by the authors in several other aleo-Indian collections (Figure 1e); and twentyree retouched flakes/denticulates (Figure 1f-h; b) including at least seven which have been made n large flakes from biface cores (Figure 1g-h). gain, the use of large biface thinning flakes for nifacial tools is very characteristic of Paleo-Inian lithic industries (e.g. Ellis 1984; Wright and oosa 1966). There is also at least one tool on a on-siliceous material but it is too damaged to asgn to a specific type.

Excepting the point, one side scraper, and erhaps three of the retouched flakes, all of the ems had been purposefully broken in the manner alluded to earlier. Although the weathering of the artifacts sometimes obscures raw material features, there is no doubt almost all the items are made on nodules, or large flakes derived ultimately from nodules, of Bayport, Michigan chert from sources some 175 kilometres northwest of the site (see Dustin 1935; Luedtke 1976). The highly fossiliferous nature of the pieces including frequent large shell fragments, the presence of thick dolomitic to sandy limestone nodular surface remnants on several unifaces and at the ends of large bifaces, the frequent presence of a circular banding which originates at the centre of the nodules, and the tendency to weather in order to produce a "chocolate brown" patina, are all distinguishing characteristics of Bayport chert and ones which, in combination, only occur on Bayport out of all the reported chert sources from the southern Ontario/southern Michigan region. The only known artifact which we are not certain is not on Bayport chert is the single point recovered.

The recovery of the material within a small tightly constrained area, the presence of only diagnostic Paleo-Indian artifacts such as the point and large double side scrapers, the homogeneity of the assemblage in terms of raw material, artifact types and weathering patterns, and the absence of any evidence of subsequent occupation, clearly relates all or most of the recovered material to a single event or at most, a closely related series of events. A large amount of work still needs to be done on the recovered assemblage and it may be that the significance of the behaviour at Caradoc and other similar Paleo-Indian sites will never be fully understood. Nonetheless, although there are ceremonial tool deposits, including burial and non-burial contexts, in which apparently none of the included items were purposefully broken in some manner (e.g. Sloan, Arkansas; Morse 1997; Richey-Roberts, Washington; Gramly 1993), it is becoming evident that the purposeful breakage of artifacts in ritual/ceremonial contexts is a widespread characteristic of Paleo-Indian behaviour throughout North America. However, there is considerable variation in the specifics of this breakage. At some sites, the artifacts are all broken through purposeful burning (e.g. Renier, Wiscon-

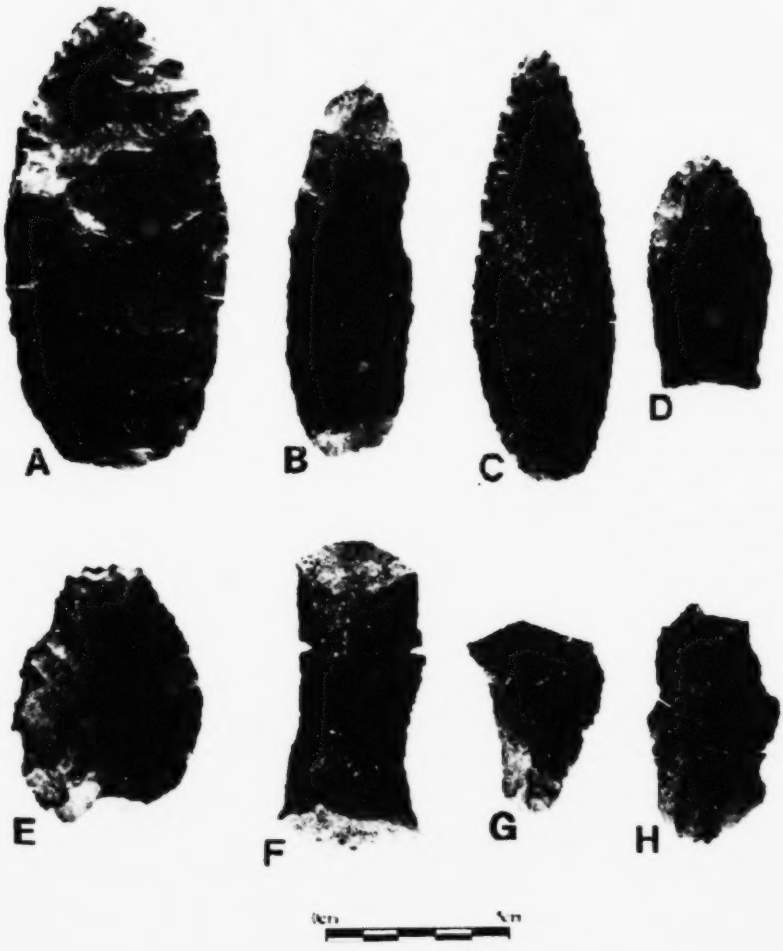

FIGURE 1. Representative Artifact Forms, Caradoc Site. A: large ovate biface; B: small "linear" biface; C: lanceolate biface tool; D: point; E: large double convex side scraper; F-H: retouched flakes/denticulates.

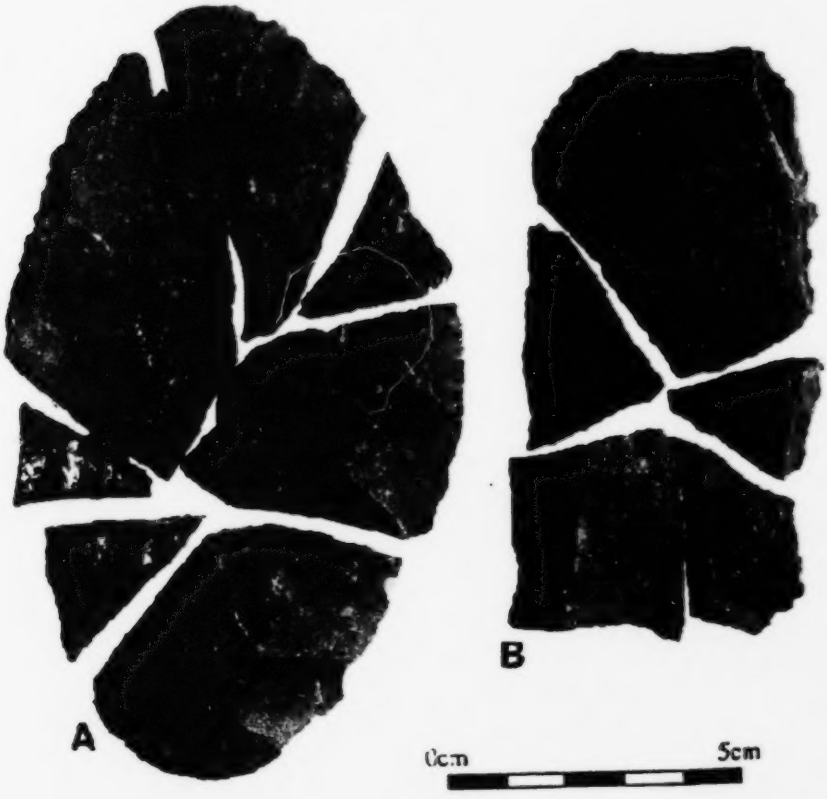

FIGURE 2. Caradoc Site Artifacts Illustrating Breakage Patterns. A: large biface broken by two blows, B: large retouched flake broken by one blow.

sin; Mason and Irwin 1960); at others a few seem to have been purposefully smashed and then all artifacts were in turn burned and fractured including some of the purposefully smashed items (e.g. Crowfield, Ontario; Deller and Ellis 1984); and at still other sites some artifacts were purposefully smashed, such as the bone foreshafts from Anzick, Montana (Wright 1995:48), while the remaining items from Anzick, including most or all of the stone items, were apparently left intact. Caradoc adds still another variant to this mix, namely, the breakage of most artifacts by purposeful smashing. The significance of such variation is not easy to discern, and especially since these glimpses of Paleo-Indian ritual life represent very rare discoveries which are widely distributed in time (e.g. at least over a thousand year period) and space (e.g. at a continental scale). Nonetheless, Wright's (1995) speculation that breakage in general, whether by burning or blows, was intended to release the "spirit" of the tool, is as plausible an interpretation as any other.

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REFERENCES

Deller, D. B. and C. J. Ellis
1984."Crowfield: A Preliminary Report on a Probable Paleo-Indian Cremation in Southwestern Ontario." *Archaeology of Eastern North America* 12:41-71.

Dustin, F.
1935."A Study of Bayport Chert." *Papers of the Michigan Academy of Science, Arts and Letters* 20:465-475.

Ellis, C. J.
1984."Paleo-Indian Lithic Technological Structure and Organization in the Lower Great Lakes Area: A First Approximation." Unpublished PhD Dissertation, Dept. of Archaeology, Simon Fraser University, Burnaby, B.C.

Ellis, C.J. and D.B. Deller
1988."Some Distinctive Paleo-Indian Tool Types from the lower Great Lakes Region." *Midcontinental Journal of Archaeology* 13:111-158.

1990."Paleo-Indians." In *The Archaeology of Southern Ontario to A.D. 1650*, edited by C. Ellis and N. Ferris, pp. 37-63. Occasional Publications, London Chapter, Ontario Archaeological Society, No. 5.

Fitting, J. E.
1963."The Hi-Lo Site: A Late Paleo-Indian Site in Michigan." *Wisconsin Archaeologist* 44(2):87-96.

Fitting, J.E., J. DeVisscher and E. Wahla
1966.*The Paleo-Indian Occupation of the Holcombe Beach*. Anthropological Papers, Museum of Anthropology, University of Michigan, No. 27.

Gramly, R.M.
1993.*The Richey Clovis Cache*. Monographs in Archaeology, Persimmon Press, Buffalo, New York.

Luedtke, B.E.
1976."Lithic Material Distributions and Interaction Patterns During the Late Woodland Period in Michigan." PhD Dissertation, Department of Anthropology, University of Michigan, Ann Arbor. University Microfilms

International, Ann Arbor, Michigan.

Mason, R.J. and C. Irwin
1960."An Eden-Scottsbluff Burial in Northeastern Wisconsin." *American Antiquity* 26:43-57.

Morse, D.F.
1997.*Sloan: A Paleoindian Dalton Cemetery in Arkansas.* Smithsonian Institution Press, Washington, D.C.

Wright, H.T. and W.B. Roosa
1966."The Barnes Site: A Fluted Point Assemblage from the Great Lakes Region." *American Antiquity* 31:850-860.

Wright, J.V.
1995.*A History of the Native People of Canada. Volume I:10,000-1,000 B.C.* Canadian Museum of Civilization, Archaeological Survey of Canada, Mercury Series Paper 152.

ARCHAEOLOGICAL ACTIVITIES ON ONTARIO HERITAGE FOUNDATION PROPERTIES

DENA DOROSZENKO

During 1997, the Ontario Heritage Foundation(OHF) undertook excavation work on two of its heritage properties and began a long term survey program related to the natural heritage properties held by the Foundation.

ASHBRIDGE ESTATE, TORONTO

The Ashbridge family were one of the founding families in Toronto, and their homestead represents the earliest still remaining within the City of Toronto. The family immigrated to York from Pennsylvania in 1793.

In 1987 and 1988, the Archaeological Resource Centre of the Toronto Board of Education, now defunct, conducted public archaeology programs on the west end of the site where a 20th century residence once stood.

During May and June of 1998, an archaeological field school given by the University of Toronto's Department of Anthropology, will be held at the property. Led by Dr. Martha Latta, and the Ontario Heritage Foundation's Archaeologist, Dena Doroszenko, the team of approximately 30 persons will be excavating in the area of the earliest houses on the property. These consist of a log cabin, dating to as early as 1794, and the 1809 house. The team will also be working in the area of several other outbuildings which stood near these structures.

The third house built on the estate still stands at 1444 Queen Street East. It was built for Jesse Ashridge in 1854. Designed by Toronto architect Joseph Sheard, it is a Regency cottage in brick, planned around a central hall and finished with a trellised verandah. The second floor was added in 1900. The estate also consists of a 1965 bungalow. The estate was donated to the Ontario Heritage Foundation by Dorothy Ashbridge Bullen and her sister Winnifred E. Burton in 1972.

During the fall of 1997, Doroszenko led a small corps of co-operative education students and volunteers from the University of Toronto and the Ontario Archaeological Society in examining the feasibility of running public archaeology programs in the rear yard of the 1854 Jesse Ashbridge house. Historic photographs dating to the turn of the century document that the layout of the yard has changed through time. As late as 1906 stood a number of outbuildings now absent from the landscape. These included a wash-house, a small barn and an outhouse. Testing in the fall of 1997, examined a number of areas related to these structures in order to document the amount of disturbance and possibility of major excavations in this area. In the area of the barn, evidence of the demolition and footings of this building were noted. Approximately 2,000 artifacts were retrieved, primarily dating to the late 19th and early 20th century

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NATURAL HERITAGE PROPERTIES - SURVEY PROGRAM

Up until 1997, the emphasis of the archaeology program within the OHF has been with the 26 built heritage properties. Prior to any capital restoration or maintenance work on these properties, archaeological investigations would take place. Beginning in 1997, a survey program was initiated to deal with the Natural Heritage Properties. Stage 1 assessments were carried out on 32 properties. Five properties were not assessed since they have already had some level of archaeological research. One of these properties experienced additional testing in 1997 (see below). The assessment process was carried out under Doroszenko's direction, by Vito Vaccarelli and Heather Sauer.

The report prepared by Vaccarelli (1997) provides an estimation of the levels of potential for each property, and an estimation of the timing involved with conducting Stage 2 assessments. In 1998, Stage 2 assessments will begin. It is estimated that this is a long term program that will be undertaken by the OHF as funding is available.

EMMERSON SPRINGS SITE (AKGX-5), HALTON HILLS

Scotsdale Farm is located in Halton Hills, near Georgetown and is of provincial significance. Most of the land is table land, upland and lowland forest on the Niagara Escarpment and provides a permanent route for the Bruce Trail. The property is also considered an Environmentally Sensitive Area and an Area of Natural and Scientific Interest. The size of this property is 531 acres. It was acquired by the OHF through a donation in the early 1980s by the estate of Stewart and Violet Bennett. Under a custodial agreement with the OHF, the property is managed by the Credit Conservation Authority as a Niagara Escarpment Park.

Preliminary work in 1984 by William A. Fox identified several isolated prehistoric find spots and the discovery of one substantial site: the Emmerson Springs village, situated on a terraced plateau overlooking Owl Creek.

Additional work in 1994 was carried out by D.R. Poulton & Associates Inc., for the OHF.

FIGURE 1. Excavation at the Emmerson Springs Site, 1997

The intent of the 1994 fieldwork was to conduct a controlled surface collection of the field portion of the site and to carry out limited test excavations on any artifact-rich deposits which might represent midden areas. The site was defined as having a minimum surface area of 1.28 hectares and at least two midden deposits were identified. Based on the quality and quantity of the chipped lthics, the compartative quality of the ceramics and the presence of select other traits, the site represents a Neutral village occupied during the terminal prehistoric or protohistoric period.

In 1997, the author undertook a short one week excavation at the site to determine the potential for settlement pattern data. Three areas highlighted by D.R. Poulton (1995) were investigated. Given the limited nature of these investigations, the material recovered still suggests that the site is relatively rich in cultural remains. Approximately 900 artifacts were recovered from the three units excavated. One unit yielded evidence of post moulds, another was placed within a

FIGURE 2. Excavation of fire pit at Emmerson Springs stie

midden area, while the third, uncovered evidence of a fire pit in an area identified in 1994 as a midden - a plough-disturbed area on the tableland portion of the site.

Testing at this site resulted in new information regarding settlement patterns and work will continue in the future to expand our understanding of this site.

ACKNOWLEDGEMENTS

I would like to thank Vito Vaccarelli, Heather Sauer and Peter Hamalainen who assisted during the field components at the Emmerson Springs site. In addition, archaeological summer work students provided by the Ontario Ministry of Citizenship, Culture and Recreation, courtesy of Neal Ferris were invaluable for the fieldwork component.

During the work at the Ashbridge Site, I would like to thank Ellen Balubergs, Mima Kapches, and Bruce Schroeder for allowing their students to come and volunteer during the fall fieldwork at the site. In addition, there were a number of volunteers including Tony Stapells, and Kris Bovaniser who added to the congenial atmosphere at the site.

REFERENCES

Poulton, D.R. & Associates Inc.,
1995. "The 1994 Archaeological Assessment of the Emmerson Springs Village (AkGx-5) Town of Halton Hills, Ontario." On file, Ontario Heritage Foundation.

Vaccarelli, Vito
1997. "Natural Heritage Properties - Archaeological Assessment". On file, Ontario Heritage Foundation.

PETUN AREA 1997

CHARLES GARRAD

INTRODUCTION

During 1997, excavations continued on the McQueen-McConnell BcHb-31 archaeological site under Licence 97-022 granted to the writer.

THE McQUEEN-McCONNELL (BcHb-31) ARCHAEOLOGICAL SITE

The excavation in 1997 of part of a disturbed midden on the McConnell segment of the McQueen-McConnell (BcHb-31) Site, near Collingwood, Ontario, continued from 1996 as a research and public outreach project of the Petun Research Institute (Inc.) and a Volunteer Opportunity within the Passport-to-the-Past program of The Ontario Archaeological Society (Inc.), with the gracious consent of the site owners, Mr. & Mrs. William and Helen McConnell. Ten participants excavated, and received an overview of the Petun area.

The 1997 excavation was of one week duration (July 6-12), with prior site preparation and subsequent artifact analysis and report compilation. Five one-metre squares and the baulks between were completely excavated by trowel in 5 centimetres. levels to subsoil and backfilled. The existing grid system laid out in 1993 was extended, and is left in place for next year (1998). Artifacts were washed and conserved daily as necessary and as part of the instruction. Analysis and recording by the writer took place during the fall and early winter. The participating crew comprised John Cowan, Paul & Sharon Feldman, Peter Gendron, Nancy Helliwell, Barbara Hicks-Lyne, Jim Milner, Dean Owen, Jennifer Phillips, and Darryl Wines. Supervisory and experienced staff were Janet Turner, Ella Kruse, Anne La Fontaine, and Charles Garrad. Appreciated assistance was provided by Glenn Kearsley. The writer's thanks go to all these good people.

RESULTS

The 1997 recoveries confirmed the existing interpretation of the deposit as belonging to the protohistoric GBP1, determined by earlier finds of European brass and copper. A total of 3,384 artifacts were recovered, including two pieces of copper (believed to be European, to be confirmed by further analysis), a Trumpet Plain pipe bowl fragment, and 67 typable rimsherds. It was again observed that the rimsherd sample was greatly dominated by a single type, Sidey Notched, at 59%, this being interpreted as a temporal marker for GBP1. Sidey Notched rimsherds are distributed throughout the midden at all levels. Pottery quality varied but was usually fairly good. Chert was overwhelmingly (93%) from a local Fossil Hill formation outcrop. Of the 384 chert objects recovered, only four formal tools were recognized, three scrapers and a projectile point, the same number and ratio as the previous year, suggesting an extensive on-site manufacturing industry for

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off-site use. Seven drilled sandstone discoidal beads, one polished bone needle and a tube, were also recorded. Faunal and fish bone, unmodified clam shell, corn kernels and cobs, and nuts, indicated a mixed diet.

Ten people developed some awareness of Ontario's prehistoric past, and received hands-on experience in archaeological excavation. That the midden deposit, although extensively disturbed, nevertheless justifies careful excavation, and is still fairly rich with material when excavated carefully, was confirmed. Work will continue in 1998, and more advanced artifact analysis will occur when the excavation is completed.

MILITARY STIES ARCHAEOLOGY, PARKS CANADA, ONTARIO SERVICE CENTRE: 1997

JOSEPH LAST

During the 1997 field season, archaeolo gists from Parks Canada, Ontario Serv ice Centre, investigated several military-related sites in Ontario. The primary aims of the projects were to assess the potential impacts on cultural resources resulting from proposed structural stabilization and site development activities. The investigations used a variety of mitigative strategies involving metal detecting, shovel sampling, test pitting and trenching, intensive excavation, and monitoring during construction. Projects included the installation of a bicycle path through the Niagara Military Reserve in Niagara-on-the-Lake; the stabilization of the main gate at Fort Wellington, Prescott; repairs to the entrance way at Fort Mississauga, Niagara-on-the Lake; the testing of the southwest bastion at Fort Malden, Amherstburg; cultural resource evaluation on Cairn Island, (Stephen Mills this volume); and a preliminary resource inventory and monitoring of hydro utilities at the Cathcart Martello Tower, Cedar Island, (Stephen Mills this volume). The projects augmented our understanding of the complex construction sequences at Fort Wellington and Fort Mississauga. They also provided essential preliminary resource inventories for Cairn Island, Cathcart Tower and the Otter Trail. By increasing our knowledge of the historic resources within the study areas, the projects helped in the making of informed recommendations to Parks Canada Site and District Culture Resource Managers. They also contributed to Parks Canada's ongoing strategy for resource preservation and presentation.

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THE MILITARY RESERVE BICYCLE PATH SURVEY, NIAGARA-ON-THE-LAKE

Permit Holder: Joseph Last [Parks Canada, OR Permit 97-0005H]

INTRODUCTION

For two weeks in early May, a three-person crew tested the proposed corridor for a bicycle path connecting the Niagara Parkway with Fort George. Initiated by the Town of Niagara-on-the-Lake, the 2.7 kilometre-long thoroughfare will accommodate cyclists, in-line skating and pedestrians. From the glacis of Fort George, the path runs west through the Military Reserve at Niagara, crossing the Commons, Butler's Barracks and Camp Niagara, before joining the Niagara Parkway. By channelling pedestrian traffic between and among these sites, Parks Canada viewed the project as an effective means of demonstrating their historic interrelationships. It will also give visitors the experience of travelling along the historic routes that once joined the various components of the Military Reserve at Niagara.

DEVELOPMENT OF THE MILITARY RESERVE AT NIAGARA

When the British reoccupied Fort George in December 1813, they set about rectifying the defensive imperfections that had led to their hasty evacuation some seven months earlier. To protect their supplies, they founded a new supply base on Ordnance lands farther to the west and out of reach of the menacing guns of the American Fort Niagara. Collectively known as the Military Reserve, the area consisted of the Commons (site of the 1799 Indian Council House), Butler's Barracks and later, Camp Niagara (Figure 1).

By 1854, Butler's Barracks had become a palisaded enclosure containing twenty structures. In size, it encompassed an area of eight hectares. As the headquarters for the Commissariat Department, it was a major dispatch centre for the Niagara Peninsula. The British army occupied Butler's Barracks until 1857 when the last of British Regulars were withdrawn. In 1871 the Board of Ordnance transferred the land to the Dominion of Canada. From that time the military used Camp Niagara, as it was then named, as a summer training facility for both regular and militia regiments.

During the First World War, some 14,000 men of the Canadian Expeditionary Force trained at Camp Niagara. The site developed further in the 1940s when it again barracked and trained troops for the Second World War. Then, the infrastructure of the camp grew to include parade squares, tree-lined avenues and rows of ablution rooms, kitchens and privies. It remained in military use until 1966 when the National Park Branch took over its administration.

SURVEY METHODS AND STRATEGY

Excluding the westernmost segment, the bicycle path followed existing or past thoroughfares. These included Brock and Scheaffe Roads, (both used during the Camp Niagara training period and now overgrown) and the historic Otter Trail. The lat-

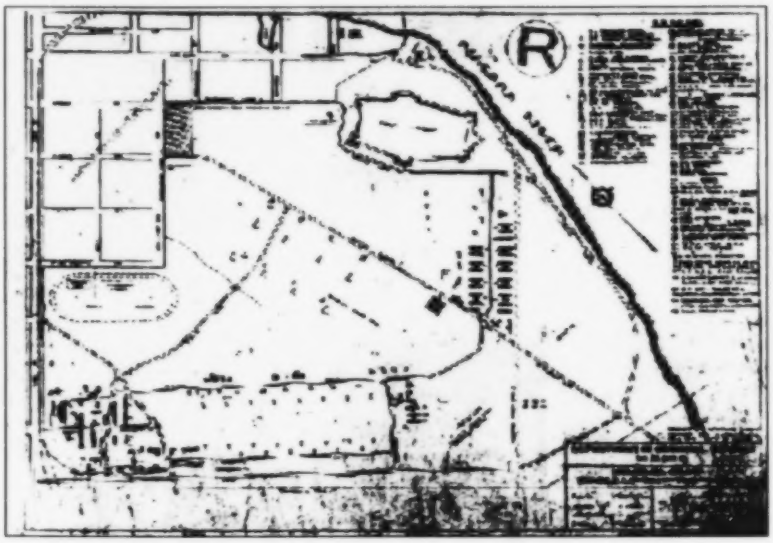

FIGURE 1. Overview of Camp Niagara, 1943. Fort George is centrally located along the top portion of the plan. The concentration of buildings in the lower lefthand corner constitute Butler's Barracks.

FIGURE 2. "Camp Niagara Ontario, 23 June 1906" from a photograph by H.J. Woodside. Members of the 31st Regiment are seen preparing to board a Michigan Central Railway Train. Note use of horse draw wagons and the lack of well developed roads. [Ontario Service Centre CRM Resource Centre 503-18-2-906-4218].

ter was once the major route between Fort George and Butler's Barracks. It also serviced the Commons and later, Camp Niagara. As a result, the aims of the project were to examine the nature and extent of the historic trails. An additional goal was to learn, if possible, how the British army constructed and maintained them. An investigation of cultural deposits relating to the occupation of Butler's Barracks and Camp Niagara was also a primary objective.

We employed two sampling strategies during the investigation. For those portions of the route that followed previous macadamized road surfaces (Brock and Scheaffe Roads), mechanically cut test trenches provided cross sections of the roadway, sub-beds and associated drains. For the unsurfaced portion of the route a metal detector survey was employed, augmented by shovel test pitting at 10.0 metre intervals. Every fifth test unit was trowel-excavated to maintain stratigraphic control.

Survey Findings

Testing along the Otter Trail revealed the presence of a road surface, now buried below a 0.10 metre thick layer of sod. The road was of simple design. It consisted of compacted pebbles lain directly upon the original 'A' Horizon. No effort was made to strip the sod or prepare a load-bearing sub-bed. Previous investigations of the trail linking Fort George with the Navy Hall demonstrated similar construction technique for the earliest road servicing the fort (Mills 1997).

Testing along Brock and Scheaffe Roads provided a more complex sequence. Excavations revealed three consecutive road surfaces, all presumably dating to the Camp Niagara period. The earliest road consisted of a thin veneer of asphalt overlying a 0.07 metre thick bed of pea gravel and pit-run material. Lying directly upon a buried 'A' Horizon, the military did not attempt to level or remove the organic 'A' and 'B' horizons before road construction. Two additional road surfaces lay above the first. Each consisted of a crushed gravel sub-bed and thin dressing of asphalt. Ditches ran along both sides of the roadways and were of similar design. Like the road construction, they were simple in design and form. The military did not attempt to line them with gravel or other filter material. Culverts and drains/tiles were also absent.

Considering the documented use of horse teams to draw freight wagons, ammunition carts and ambulances (Hawkins, Mayer and Richard-Onn 1990), the road design was more than adequate for the early years of Camp Niagara (Figure 2). This probably accounts for the nonexistent to poor roadbed preparation observed throughout the Reserve and especially along the Otter Trail. Later vehicular modes of transport included trucks, staff cars, jeeps and Bren Gun carriers (Hawkins, Mayer and Richard-Onn 1990). While not restricted in their movement within the Camp, their introduction coincides with the development of treed avenues within the southeast portion of Camp Niagara.

The survey along the southern boundary of the site revealed evidence of another form of transportation. It also uncovered a railway bed running parallel to John Street. Plans of Camp Niagara depict a spur line from Paradise Grove connecting with the main line from King Street. Rail served Camp Niagara for much of its history transporting both supplies and troops to the area (Figure 2).

The investigations recovered few artifacts. However, testing on the Fort George glacis uncovered Snider shells, a percussion cap (stamped with a Board of Ordnance broad arrow) and a .303 cartridge. This assemblage is similar to the Camp Niagara period artifacts found during the testing of the adjacent Fort George parking lot (Last 1996).

FORT WELLINGTON NATIONAL HISTORIC SITE, PRESCOTT

Permit Holder: Joseph Last [Parks Canada, OR Permit 97-0014H]

In support of proposed repairs to the Fort Wellington main entrance, we undertook a four-week investigation of the entranceway wing walls. Previous excavations showed a complex sequence of building and modification activities associated with the fort entrance. The stabilization project offered an opportunity to explore them further while en-

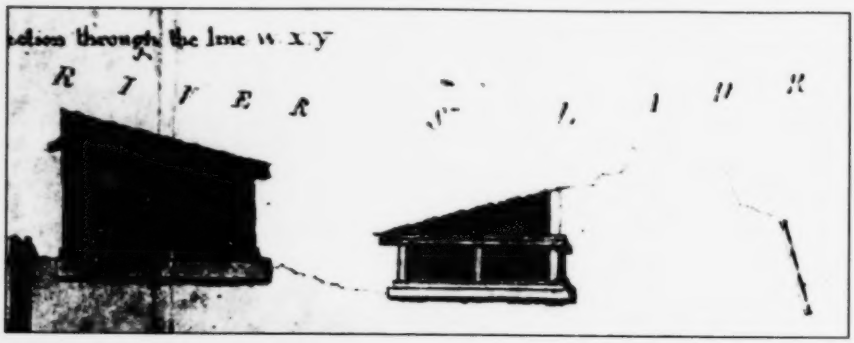

FIGURE 3. Detail of plan of Fort Wellington, Upper Canada showing casemates within rampart. PAC, H2/450 Prescott 1816 Fort Wellington. [Ontario Service Centre CRM Resource Centre 508-15-816-4731].

FIGURE 4.
View of the present 1838 passageway wing wall overlying the original 1813 wall. Photo by J. Last [Ontario Service Centre CRM Resource photo 2H-2590M].

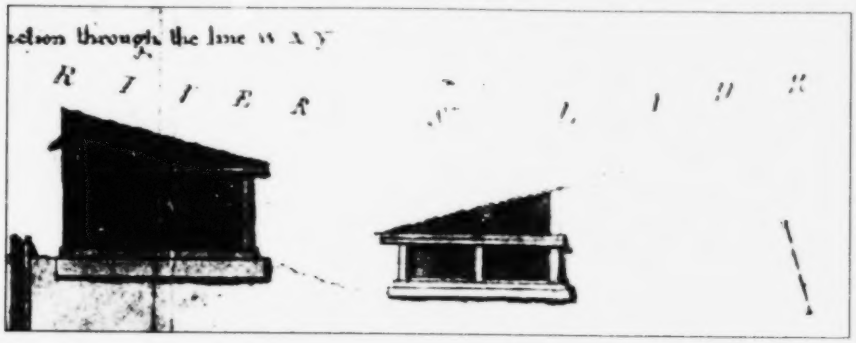

FIGURE 3. Detail of plan of Fort Wellington, Upper Canada showing casemates within rampart. PAC, H2/450 Prescott 1816 Fort Wellington. [Ontario Service Centre CRM Resource Centre 508-15-816-4731].

FIGURE 4.
View of the present 1838 passageway wing wall overlying the original 1813 wall. Photo by J. Last [Ontario Service Centre CRM Resource photo 2H-2590M].

suring that impact on historic resources would be kept to a minimum.

FORT WELLINGTON: A STRUCTURAL HISTORY

Fort Welli ngton has undergone two principle building phases. The first occurred in early 1813 when Lieutenant Gaugreban, of the King's Royal German Engineers, carried out the design. Apparently influenced by the Prussian concept of detached works, he oversaw the construction of a modest earthen redoubt. The major elements of the fort were a single storey blockhouse, casemated ramparts, ditch and associated glacis.

Besides the blockhouse, the casemates or 'splinter proofs' were predominant features of the first fort (Figure 3). Built of timber and stone, they functioned as storage facilities for powder and provisions. Their use at Fort Wellington is of some interest for they were not a typical component of Ontario fortifications. During the War of 1812, the British employed casemates sparingly, and then only within the gorge of a bastion, such as at Forts George and Erie. By 1821, the casemates had fallen into ruin. An account by a touring lieutenant in 1833 mentioned that they had conceded to the weight and pressure of the ramparts and had collapsed in upon themselves. They remained in that state until 1838 when the British army refashioned the site.

The second Fort Wellington differed radically from the first. It employed the same trace as the 1813 fort but attempted to remedy some earlier defensive imperfections. The parade was enlarged by reducing the width of the ramparts and by cutting into the dilapidated casemates. In addition, the inclusion of epaulements and a caponnire provided the necessary flanking fire deficient in the first fort. Other modifications included the construction of a new stone blockhouse, and reconfiguring the main gate entrance.

PAST ARCHAEOLOGICAL RESEARCH

Understanding of the entrance way at Fort Wellington is limited to two previous investigations. In 1968, during a comprehensive study of the northeast casemate, Steve Baker (1971) uncovered the foundation of a robustly constructed wall immediately west of the casemate vault. Although more substantial than the other casemate walls, he interpreted it as the extreme west wall of the casemate construction. He hypothesized that it served as a protective barricade, shielding the chamber entrance from artillery fire. While never tested, Baker also conjectured that the 1813 fort entrance was farther to the west.

During the installation of a new electrical service in 1991, the remains of a stone foundation were observed just south of the west passageway wing wall. The results of the ensuing salvage excavations revealed the foundation to run the entire length of the passageway, mirroring the curvature of the present (1838) west entranceway wall. Although artifacts were few, stratigraphic analysis helped in assigning a pre-1838 date to the foundation. In all likelihood, this foundation represents the west wall of the original entranceway at Fort Wellington. Since the wall lies to the east of its more recent counterpart, it makes sense that the east wall of the original entrance is offset accordingly. Consequently, the wall exposed by Baker may have simultaneously served as the west wall of the casemate and the east wall of the entranceway. The primary goal of this project was to shed further light on this issue.

RESEARCH GOALS

The primary aim of this investigation was to build upon present knowledge and expand our understanding of the evolutionary development of Fort Wellington. Investigative strategies focussed on locating and recording the original west wall of the entranceway and to examine associated historic deposits. As a result, excavations concentrated along the present west wing wall of the passageway. A total of seven excavation units were opened. They provided cross sections illustrating the building sequence of the first and second Fort Wellington and the filling episodes associated with the rampart modifications. The excavations also furnished an 'interior' view of the west wall of the entranceway.

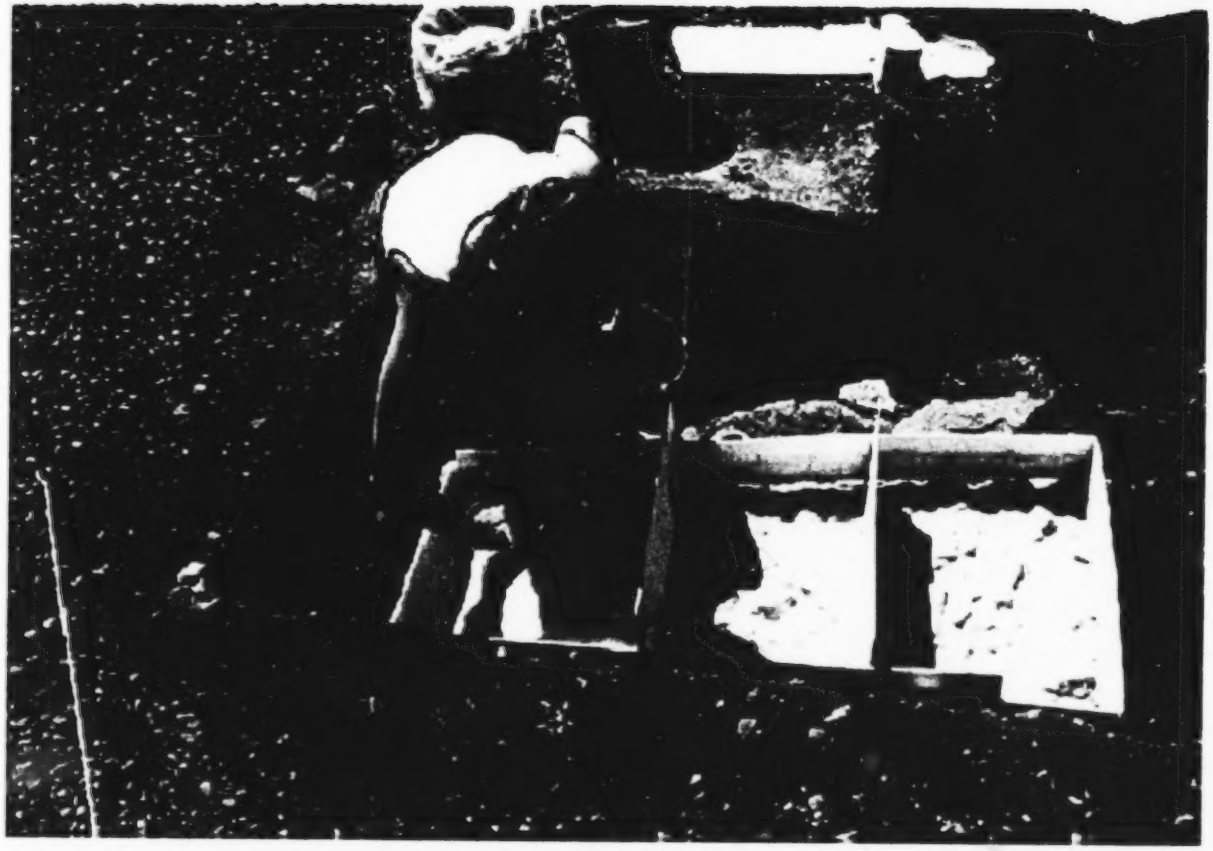

FIGURE 5. Conservator Laura Nagora from the Ontario Service Centre (Ottawa) preparing the 1838 macadamized parade surface for casting and block lift. Photo by J. Last [Ontario Service Centre CRM Resource photo 2H-2568M].

RESEARCH FINDINGS

The investigations were successful in defining the foundations of the west passageway wall along with establishing a stratigraphic sequence spanning 184 years of site development and occupation. The earliest phase consisted of a very organic buried 'A' Horizon. Containing flecks of charcoal and small wood fragments, the layer probably represents a preconstruction clearing activity.

The foundation for the passageway wall sits on the historic sod line without benefit of a footing. As a result, no builder's trench was necessary during construction. Associated with, and covering the buried 'A' Horizon, is a layer of lime mortar. Presumably deposited during the construction of the passageway, it dates to the earliest phases of Fort Wellington. Two successive fill deposits of sand and cobbles cover the mortar layer. Both abut the exterior face of the wall and seem contemporaneous with its construction.

The width of the 1813 foundation was much larger than its extant counterpart. The original wall measured 2.14 metres in width while the present 1838 wall is about one third that size (Figure 4). Four courses of roughly-fashioned limestone remain intact and in relative good preservation. Traces of degenerated lime mortar were observed throughout, suggesting the original bonding agent used in its construction. The bottommost course of the wall extends to the south approximately 0.03 metres creating a sill or ledge. It most likely supported a facing of stacked, squared logs. Baker (1971) found that the British employed a similar technique to sheath the interior of the casemates. The remains of wood running the length of the wall was also uncovered. Oriented parallel to, and inset 0.20 metres from, its outer east face, they may be remnants of an internal structural brace. The investigations of the northeast casemate exposed similar internal bracing.

In 1838 all but the lowest four courses of the wall were removed. Once dismantled, the surviving courses served as a foundation pad for the present entranceway wing wall. Those portions of the foundation not occupied by the 1838 wall were covered with a layer of construction fill. The installation of a rock-spall pavement soon followed. Past investigations have found this macadamized surface broadcast throughout the fort enceinte (Baker 1971; Last et al. 1985). The result of the on-site dressing of stone during the 1838/39 blockhouse construction,represents a significant sealed context(a spall layer) and is crucial for stratigraphic interpretation. As such, part of the feature was block-lifted and cast for future analysis and presentation (Figure 5).

Archaeological testing of the study area provided an assessment of the resources and helped in developing mitigative strategies required during the stabilization phase of the project. Specifically, the investigation aided understanding of the original and present entrances at Fort Wellington. It provided information regarding the location of the entranceway, the nature of its construction, and the sequence of its modification from 1813 to the present.

FORT MISSISSAUGA NATIONAL HISTORIC SITE, NIAGARA-ON-THE-LAKE

Permit Holder: Joseph Last [Parks Canada, OR Permit 97-0018H]

INTRODUCTION

Similar to Fort Wellington, the main entranceway to Fort Mississauga required repair. To provide advice for the stabilization project, a four-week investigation of the area was conducted(Last 1997). The goals of the excavations were threefold: to gain a clearer understanding of the structural history of the entrance wing walls; to determine, if possible, the reason(s) for their failure; and to evaluate the impact of the proposed preservation activities on the entranceway and associated historic resources.

SITE HISTORY

The failure of Fort George to neutralize the guns of Fort Niagara during the American invasion of May 26, 1813, forced a rethinking of the defen-

FIGURE 6. View of the entranceway at Fort Mississauga showing the location of the excavation units. Photo by J. Last [Ontario Service Centre CRM Resource photo 8H-40W].

sive requirements for the area. Upon return to Newark, Lieutenant-Colonel R.H. Bruyère, R.E. recommended the erection of an additional work at Mississauga Point. Overlooking the mouth of the Niagara River, the proposed installation would act as a counterpoise to the American stronghold, just 1.5 kilometers to the east.

Commenced in the spring of 1814, Fort Mississauga developed into an irregular star-shaped work enclosing a brick tower and five major structures. At the time of its construction the use of a stellar trace was rare in Upper Canada. The use of brick rather than stone in the fabrication of the tower was also unique for Canadian tower design. By July 1814, the British Army had thrown up earthworks and had built two bombproof powder magazines, two hot shot furnaces, and a splinter proof barracks for eighty men. Although initiated along with the earthworks, the construction of the tower lagged behind. Due to shortage of materials and delays in salaries, the tower was not completed until 1823 (Flemming 1972).

During the years leading up to 1838, the fort and its auxiliary buildings were habitually in need of repair. In that year a company of Sappers and Miners renovated the site. Besides repairing the palisade, gate, bridge, and tower, they built a ravelin to protect the main entrance of the fort. Additional work included the construction of an exterior privy and a sally port to provide access to that structure.

Based on the estimated size of the barracks, Fort Mississauga could hold a garrison of about 200 men. Identifying the specific regiments stationed at the fort is difficult since the returns incorporate all of the Niagara sites into one comprehensive report. Line regiments included the 1st Royal Scots, the 8th, the 68th, the 70th, and the

100th Regiment of Foot, as well the Royal Artillery and incorporated militia. A company of Royal Canadian Rifles garrisoned the site from 1840 to 1856. With their departure, the fort lay abandoned and disarmed. However, the site was re-garrisoned in 1864 and 1866 by various militia companies.

In 1866 the fort was transferred to the Department of Militia. Eleven years later, a local golf club laid out a nine-hole golf course at Mississauga Point and played there until the early 1890s. A second golf club, associated with the Queen's Hotel, began in 1905 and used the Mississauga course. In 1912 the two clubs merged to form the Niagara Golf Club. Included in the course were two tee-offs situated on the ramparts overlooking the main gate entrance and a green within the parade, just south of the tower. While the Niagara Golf Club has since removed the tee-offs and green from the interior of the fort, it still operates an eighteen-hole course on the grounds about the site.

THE STUDY AREA

Seven excavation units were opened to investigate the integrity of the passage way walls and associated deposits. Two abutted the south wing wall, while five were placed beside the north wing wall (Figure 6). In addition, a test unit was placed on the parade, north of the tower. The aim of the unit was to examine the nature of the material used as a parade surface during the historic occupation of the site.

RESEARCH FINDINGS

The combined stratigraphic analyses of the eight excavation units reveal five major phases in the construction/modification to the main gate at Fort Mississauga. They are from earliest to most recent: the 1814 modifications to the parade; the 1838 revisions to the site; an early wall repair; the 1915 stabilization of the wing walls; and the 1960s repair activities.

PHASE I: 1814/16

The investigations revealed that much of the material employed in the construction of the ramparts came from the scraping of the enceinte. This is consistent with a contemporary 1838 engineer's report stating that the original parapet was formed from excavating the fort interior (McConnell 1977). In each excavation unit the original 'A' and 'B' Horizons were absent. While constructing the ramparts, the army had completely removed the sod and top soil down to the natural 'C' Horizon clay. As a result, all cultural deposits currently lie within the first 0.25 metres below existing grade.

Imbedded into the natural 'C' Horizon clay is a 0.05 metres to 0.10 metres thick layer of waterworn beach cobbles used as a parade surface (Figure 7). Excavations uncovered this landscape feature beside both wing walls and in the northern portion of the parade. Smaller pea gravel was found between the interstices of the larger cobble creating a densely compacted surface. Our excavations unearthed the pavement on both the east and west sides of the north wing wall. This shows that the parade was once larger than the present enceinte of the fort. It also demonstrates that the stone wing walls were not structural elements of the first Fort Mississauga. In all likelihood, they are a part of the modifications made to the fort in 1838.

PHASE II: 1838

Excavations by the north wing wall determined that the footings of the existing wall cut into the 1814 parade pavement and thus postdate the original parade surface. While the date for the wing wall construction is unknown, it is presumed to date to 1838. In that year major renovations occurred at the site with work done on the main gate, ditch, and draw bridge (Flemming 1972; McConnell 1977). It is quite possible that the 1814/16 entranceway did not possess any wing walls. Evidence for an earlier revetment or retaining wall is lacking. In fact, the investigations reveal that the talus consisted solely of a redeposited 'C' Horizon clay fill, capped with sod to maintain its slope and to prevent erosion.

Only part of the original 1838 wing wall presently exists. While it is difficult to discern how much of the wall was rebuilt, it appears that the footing and lowermost course of the wall are origi-

FIGURE 7. South profile of excavation unit 8H25B showing shallowness of the cultural deposits (0.50m scale in 0.10m increments). The cobble layer represents the 1814/16 parade surface. It lies directly upon the natural "C" Horizon clay. Photo by J. Last [Ontario Service Centre CRM Resource photo 8H-152M].

nal. The footing consists of a 0.70 metres-wide cobble-filled trench (Figure 8). The cobbles vary in size from pebbles to fist-size stone bound with a lime mortar. Capping this trench material is a single coursing of limestone. Since no artifacts were found in association with the footing, dating the feature is problematic. However, the width of the footing trench, is wider than the subsequent repair trenches suggesting that they are not contemporaneous. Furthermore, the footing was observed in every unit excavated. It remains as the only consistent structural element among the wing wall investigations, despite location and repair technique employed.

PHASE III: POST 1838

Investigations along the interior face of the north wing wall uncovered a trench and filling episode that predates the 1915 wall repairs (see "the 1915 Wall Repairs" below). The function of this trench is unknown but could be associated with an early, unrecorded stabilization activity.

PHASE IV: 1915 WALL REPAIRS

Both wing walls are modern constructions, possibly dating to 1915. The south wall presently sits upon a concrete foundation that has incorporated part of the 1838 footing into its design. A bench mark stone with Roman numerals MMDXLIV (2544) is also set into the wall and may date to the same restoration activity. No documentary evidence for the stabilization of the walls has yet been found. However, historic drawings and photos illustrate their general evolution over time. While a timber-supported terre plein originally covered the

gate, no exterior wing walls were present in the initial gate plan. Palisade posts, rather than stone retaining walls, contained the scarp face of the ramparts. The first depiction of exterior wing walls comes from a 1922 photo of the fort entrance. In that view, the exterior walls appear as they do today; regular-coursed stone construction supported upon a concrete foundation. Presumably, the interior south wall was constructed at the same time. Work on the wing walls and entrance is presently attributed to the 2nd Field Company, Canadian Engineers. They occupied the site in 1915 and are known to have made repairs to the tower.

A 'French' drain and mortar deposit are part of a trench filling episode related to an earlier wall repair. Although 20th century wire nails, bottle glass and .303 cartridges signify a modern date to the deposits, closer dating is not possible. Historical documentation refers to the fort receiving repairs in 1915 by the 2nd Field Company, Canadian Engineers. Thus, this date is tentatively assigned to the deposits.

The drain consists of waterworn cobbles of varying size. No soil is associated with the deposit except the clay and loam material that has leached down from upper elevations. Several metal drainage pipes serve the bottom of the drain. Their intended function is to channel water away from the ramparts and wing walls.

Phase V: Ca. 1960s Wall Repairs

The most recent repair to the walls involved the paging of the interior (west) side. Accordingly, a trench was cut to expose its back face. Excavated by hand, the trench tapers in width from top to bottom. The depth of the trench also varies, ranging between 0.25 metres and 0.45 metres below

FIGURE 8. View of the 1838 cobble and aggregate footing beneath the reconstructed north wing wall. Photo by K. Fox [Ontario Service Centre CRM Resource photo 8H-164M].

surface. Backfill for the trench contained compacted clay material with mortar and brick fragments. The presence of mid-20th century artifacts suggests a recent stabilization attempt. It is presumed that this occurred during the 1960s when Parks Canada took over the care of the site.

CONCLUSIONS

Although limited in scope, the investigations of the main gate wing walls did provide insights into their construction and subsequent modifications. Several undocumented events affecting the site, specifically the wing walls, have implications on future preservation strategies. These should be considered when developing repair specifications. Foremost is the fact that the walls are not original. While the result of a 20th century repair, they none-the-less are part of the structural evolution of the site, and thus should be respected. If it is confirmed, through historic documentation or material culture research, that the walls were rebuilt in 1915 during the Camp Niagara period, they have added heritage value. As physical remains of the training period era, they form a direct link to the tradition of defence and the longevity of military presence in the Niagara Peninsula.

FORT MALDEN NATIONAL HISTORIC SITE, AMHERSTBURG

Permit Holder: Joseph Last [Parks Canada, OR Permit 97-001944]

During the last week of November, an investigation of the southwest bastion at Fort Malden occurred. The excavations were in support of the proposed installation of a gun platform for artillery. The purpose of the investigation was to define the original 1838 gun platform and to assess the impact of the proposed project on historic resources. Guided by a 1841 plan depicting the location of the historic platform, a test unit was placed centrally along the northeast flank of the bastion. Poor weather conditions and limited field time limited testing to one unit.

No previous excavations had occurred in the study area. However, investigations of the northwest bastion in 1978 revealed two gun emplacements dating to the 1838 modifications to Fort Malden (Lane 1980).It was presumed that similar features existed on southwest bastion. Testing also had the potential of providing insights into the stratigraphic sequence for the bastion.

RESEARCH FINDINGS

Excavations revealed nine discrete deposits. They represent four occupational phases spanning the entire history of the bastion. Significantly, the investigations uncovered a 0.13 metres x 0.13 metres wooden timber associated with the 1838 gun platform. Excavations beneath it did not reveal any additional elements of the platform. This suggests that it was a sleeper support, rather than a joist. Its orientation and associated staining infer that the gun platform was angled out toward the west in a manner consistent with the 1841 plan. Historically, the British positioned the gun to rake the scarp of the northwest bastion and the shipping channel of the Detroit River.

The construction of the platform was similar to that found by Lane (1980). In both instances Army Engineers laid the sleeper supports at right angles to the line of fire. Unlike the northwest bastion, no evidence of joists or planking were found. Apparently they were removed before the platform was abandoned. However, the investigations did reveal small wood fragments throughout the overlying clay fill. They may be all that remain of the upper platform. Two wrought iron spikes lay next to the south face of the sleeper. Presumably, they once fastened the now absent planking. Staining was also observed about the sleeper that formed a silhouette of the platform. It suggests that the platform ran farther to the south. If this is correct, the uncovered sleeper would have to be the central or middle sleeper.

The sleeper supporting the gun platform did not appear to have its own separate beam slot cut into the underlying bastion fill. Instead, the

entire footprint of the platform was first carved into the bastion fill. The sleepers were then laid into the excavated hole and subsequently packed with clay.

CONCLUSIONS

While the excavations were limited in scope, they did provide information necessary for the accurate placement of the new gun platform. The investigations also revealed the nature and extant of the original 1838 feature. Importantly, it allowed verification of the accuracy of the 1841 plan that can now be used with confidence in future planning and assessments.

REFERENCES

Baker, Steven G.
1971. "Fort Wellington Archaeology 1968." in *Manuscript Report No. 22*. National Historic Parks Branch, Department of Indian Affairs and Northern Development, Ottawa.

Flemming, David
1972. "Fort Mississauga 1814-1972". *Manuscript Report No. 122*, Parks Canada, Department of Indian and Northern Affairs, Ottawa.

Hawkins, J. Trevor, Robert G. Mayer and Lynne E. Richard-Onn
1990. "Toward a History of Camp Niagara, Niagara-on-the-Lake, Ontario, Canada." Mayer, Poulton and Associates Incorporated. Manuscript on file Parks Canada, Ontario Service Centre, Cornwall.

Lane, Peter
1980 "The Archaeology of Fort Malden 1977-1978". Manuscript on file Parks Canada, Ontario Service Centre, Cornwall.

Last, Joseph H.
1996. "Military Sites Archaeology, Parks Canada, Ontario Region." In *Annual Archaeological Report, Ontario* (New Series) 7:96-101.

1997. "8H Fort Mississauga 1997 Investigations". Manuscript on file Parks Canada, Ontario Service Centre, Cornwall.

Last, Joseph H., Peter Lane, Randy Johnston, Charles Burke and Lorene Jacobs
1985. "Report on the 1981 Excavations at Fort Wellington, Prescott, Ontario". *Microfiche Series No. 169*. Parks Canada, Ottawa.

McConnell, David
1977. "A Study of the British Military Buildings at Niagara-on-the-Lake, 1814-37". *Manuscript Report No. 226*, Parks Canada, Department of Indian and Northern Affairs, Ottawa.

Mills, Stephen
1997. "Salvage Archaeology at Parks Canada, Ontario Region." In *Annual Archaeological Report, Ontario* (New Series) 8:96-103.

CATHCART TOWER, ST.LAWRENCE ISLANDS NATIONAL PARK - 1997 ARCHAEOLOGICAL PROJECT SUMMARY

STEPHEN MILLS

Sitting atop the west end of Cedar Island in St. Lawrence Islands National Park, Cathcart Tower is one of four Martello towers that once guarded the water approaches to Kingston, Ontario. Constructed in the 1840s, these circular, medieval-looking, defensive keeps were designed to operate independently or in conjunction with Forts Henry and Frederick in Kingston's defense. The guns from the towers would provide intersecting arcs of fire along the shoreline from the St. Lawrence River to the western limits of the town. Cathcart Tower (named for Charles Murrey Cathcart, Governor General and Commander of the British forces in Canada) was completed in 1848, making it the last Martello tower built in British North America. Murney Tower, Shoal Tower and Fort Frederick Tower were all built before Cathcart. A defensive ditch surrounding Cathcart Tower was dug several years after the tower itself was completed. This ditch helped defend the tower while providing material for the development of the glacis.

The Kingston towers were first garrisoned by men from the 2nd Battalion of the Rifle Brigade. In 1855, troops of the Royal Canadian Rifle Regiment (RCRRs) moved in. The RCRRs, together with some of their families, stayed at Cathcart Tower until the British Army turned the defense of the country over to the newly formed Canadian Militia in 1870. As with the other three Martello towers in Kingston, Cathcart Tower was likely used as a barracks for Canadian soldiers and their families after the withdrawal of the British forces. Although it was occupied immediately following its completion, Cathcart Tower was not armed until 1862. Massive troop buildups in the United States during the American Civil War (1861-1865) raised concerns with Canadian and British authorities. It was feared that such a military buildup might cause some Americans to consider expanding northwards.

The firing platform on the second floor of the tower was 86 feet (26 metres) above the waters of Lake Ontario, allowing its 32 pdr guns to cover a wide sweep from the entrance to the St. Lawrence River to Fort Frederick. Thirty-two pound carronades on the second floor were designed to pepper an enemy with grape and cannister shot if they approached the tower. To ensure that this position could not be used against Fort Henry, its north side (facing the fort) was also its weakest flank. If Cathcart fell to an enemy force, the guns of Fort Henry could bear down and destroy the tower. Development of the powerful Armstrong gun in 1860, with its rifled barrel, increased power and superior accuracy, made these stone towers obsolete by the time Cathcart tower was armed (Saunders 1976:87).

Cathcart Tower is beginning to show its

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age as Kingston's coastal climate has taken its toll on the tower's stonework. Gaps in the massive cut limestone blocks have appeared and some stones have fractured to the point that total replacement was required. An archaeological survey was required as the proposed repairs would likely affect buried cultural resources at this site. In June 1997, a small archaeological crew spent two weeks testing the ditch surrounding the tower and recording structural remains on the glacis. The excavation of a utility trench, designed to house an electrical upgrade to the tower, was monitored at the same time. In all, six test units were dug inside the ditch. These varied in size depending on their location in the ditch. The smallest excavations units (less than 1 metre square) were placed against the base of the tower to document the condition of the masonry below grade. The largest excavation unit spanned a 2.5 metres wide section of the ditch.

The project uncovered an array of information relating to the construction of the tower and ditch, and a later masonry repair. As the ditch was added after the tower was built, the construction sequence was largely eradicated in the areas closest to the tower. The test pits in the ditch revealed a smooth but an irregular surface. Once the ditch was dug, rubble was used to fill crevices in the bedrock to provide a level walking surface. An overlying occupation deposit produced many structural and military artifacts from the mid- to late-nineteenth century. Domestic and personal-related cultural material from the RCRR period was also collected. The utility trench excavation disturbed a previously unknown midden deposit containing many period artifacts. The variety of ordnance equipment included grape and cannister shot, musket balls, percussion primer caps and an insignia button from the Canadian Militia, made by Doull and Gibson in Halifax, Nova Scotia. Two intact lids from military blacking polish, dated 1867, were discovered. One of these had been perforated with cut nails as if for reuse for a bait can. A third lid, from a domestic variety of blacking polish, was also found. This specimen was from the Day & Martin Company of London, England and was stamped with the date 1889 (Figures 1a&b). Vitrified and slip trailed red earthenwares from the second half of the last century were found as were fragments of a small, but unusual collection of late-eighteenth or early-nineteenth century wine bottles. Nicely preserved personal items from the assemblage include a silver plate watch case, a bone tooth brush and several shoe fragments. Clay marbles and porcelain doll sherds were evidence of the children living at the tower. A few flakes of Onondaga chert from the site also attest to a First Nations presence on Cedar Island some time in the past. Architectural items reflect more recent repairs to the tower during the early and mid-twentieth century when an asbestos covering for the roof was replaced.

The goals of the archaeological project involved stripping the dense underbrush that shrouded the site so that the glacis could be recorded. Once the area was cleared, several building foundations were revealed. These include the remarkably preserved stone foundation for the original privy associated with the tower (Figure 2). This feature was on the north face of the glacis, facing Fort Henry, just a short distance uphill from the shoreline. Part of its foundation had been shoddily rebuilt, perhaps for reuse as a hunting blind in recent times. While the privy location was recorded on nineteenth-century maps of Cedar Island, the other foundations on the glacis are of unknown age or function. A CAD map was produced of the site showing the tower, the entire glacis and many structural foundations.

The brief survey of the ditch and glacis at Cathcart Tower provided many fruitful discoveries that can help with the interpretation of military life in Kingston during the second half of the nineteenth century. It also produced a representative collection of military, domestic and personal artifacts from the occupation by the Royal Canadian Rifle Regiment and their families. The discovery of rich midden deposits on the slopes of the rock-strewn glacis will require additional investigation before the repair project is undertaken in the year 2000.

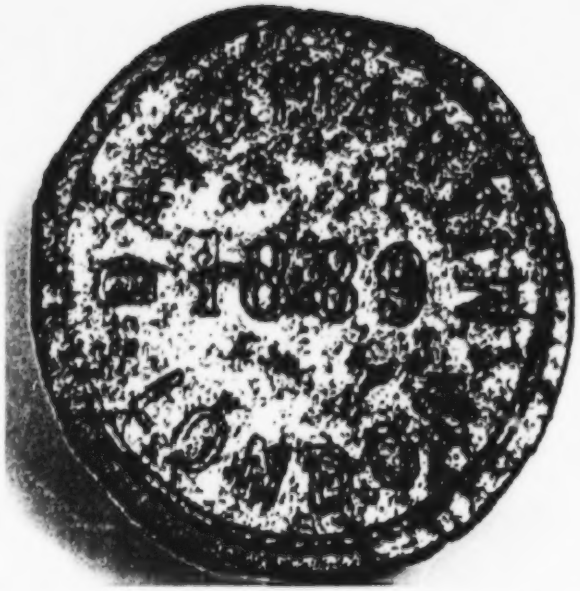

FIGURE 1A Blacking (polish) lid from Cathcart Tower. (Photo by S. Mills)

FIGURE 1B Blacking (polish) lid from Cathcart Tower. (Drawing by S. Mills)

FIGURE 2. Privy foundation at Cathcart Tower.(Photo by S.Mills)

REFERENCES

Saunders, Ivan
1976."A History of Martello Towers in the Defense of British North America, 1796-1781." *Canadian Historic Sites Occasional Papers in Archaeology and History* No. 15, pp.5-169. Department of Indian and Northern Affairs, Ottawa.

GLENGARRY CAIRN NATIONAL HISTORIC SITE - 1997 ARCHAEOLOGICAL PROJECT SUMMARY

STEPHEN MILLS

"As we drew near to the village, great numbers of the inhabitants came out to meet us and gave us a hearty welcome, according to the custom of the country." (Cook:1993:63)

So wrote Jacques Cartier following his visit to the village of Hochelaga, on the island that would become the City of Montreal. The date was October 3, 1535. Had he ventured about 90 kilometres further up the St. Lawrence River, Cartier may have noticed small encampments on a tiny island at the mouth of a gently flowing river. He then would have witnessed the terminal phase of an occupation that spanned some 4000 years.

Its earlier identity long forgotten, the island now goes by several names: Cairn Island, Monument Island and Tsikatsi'nakwahere. A massive cone-shaped monument, known as the Glengarry Cairn, dominates one end of the 110-metre long island. This impressive stone structure features a spiraling set of steps that allows visitors to ascend to its top where a flag staff projects upwards from the muzzle of a 9 pdr cannon barrel. Constructed between 1840 and 1842 by men from the Glengarry Militia, the cairn commemorates Sir. John Colborne, Lieutenant Governor of Upper Canada (1828-1836) and Governor General of Canada in 1839. Sir John was commander of the King's 52nd Regiment and had participated in many military campaigns in Europe during the 1790s and into the nineteenth century. He led that regiment at the Battle of Waterloo in 1815 and was credited as having made a crucial flanking attack on Napolean's Imperial Guard. Because of Sir John's association with the 52nd Regiment, the cairn stands 52 feet high and 52 feet wide. It is reported that the cairn also honors the role of the Glengarry Militia during the War of 1812 and the Rebellion of 1837. The cairn was designated as a National Historic Site in 1922.

Initially built from drylaid masonry, the stones were consolidated with Portland cement during various repair episodes in the twentieth century. Over time, the rubble-filled interior settled, causing one side of the cairn to bulge. Its condition was exasperated by an earthquake in 1944 that caused several serious cracks in the stonework. These structural weaknesses were last repaired in 1978 and new stabilization plans were proposed for 1997. In keeping with Parks Canada's policy regarding resource protection, the site was tested for the presence of culturally significant deposits before construction.

The initial two week survey in May 1997 uncovered significant cultural deposits spanning more than a thousand years from the Middle Woodland Period up to modern times. Ceramics and lithic artifacts from the former period suggested that the site might be an important piece in

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FIGURE 1 Earcorn motif on a Late-St. Lawrence Iroquoian rim sherd from Glengarry Cairn National Historic Site. (Drawing by K. Scott)

the pre-contact history of the region. Plans were made for an extensive archaeological project for the fall of 1997. Funding was diverted from the stabilization operation to support a six-week project to clear a two-metre wide corridor around the base of the cairn. A landing and storage area had already been cleared by archaeologists in the spring. An agreement was signed with the First Nations people from the nearby Akwesasne Reserve to provide one half of the field crew and additional laboratory personnel for artifact processing.

Beneath a thin veneer of historic occupation dating from the 1840s, lay several cultural deposits and associated features that represent occupations from the Archiac, Early Woodland, Middle Woodland and Late Woodland Periods. The historic material includes some construction-related tools such as broken drill bits and a pickaroon, a small pick-like tool commonly used in the lumber industry to pull logs over land, ice or water. Thousands of alcohol-related bottle fragments were found as well as a variety of personal items, low denomination coinage and several calibers of ammunition commonly associated with hunting and target shooting. Several historic ceramic ware types were present including vitrified and refined earthenwares decorated in polychrome and flow blue designs, and Jackfield ware (refined red earthenware). All these date from the 1840s and onward.

One very small sherd of tin-glazed earthenware was also recovered. This distinctive English or Dutch ware type is not normally found on historic sites postdating the eighteenth century and its discovery hints at a possible association with the early period of European expansion into the western St. Lawrence River Valley. Several clay pipe fragments were found, some featuring moulded decorations on the bowls. One bowl was elaborately moulded with crossed flags topped by an eagle and star. Maker's marks on the tobacco pipes include Montreal's R. Bannerman (1858-1907), Dixon (1867-1894) and Henderson (1847-1876) and McDougall from Glasgow (1847-1901).

Faunal analysis of the bones from the historic period strata showed that pig, cow, chicken and either sheep or goat was consumed on the island. Burnt bones from a domestic cat were also discovered, suggesting, among other things, the unusual culinary tastes of some of the site visitors. Two bone fragments from a Norway rat were also recovered. The Federal Government of Canada has managed the site since the early 1920s and has taken steps to maintain a park-like setting. The function of many of the artifacts from the historic period suggest that the site was used for recreational purposes since the cairn was built.

On the other hand, the cultural material from the pre-contact period suggests a subsistence-based utilization of the site. That artifact assemblage included more than 5500 pottery sherds, from which a minimum of 139 vessels was identified. The cultural affiliations of these vessels are: Early Woodland (1 vessel); early Middle Woodland (40 vessels); middle Middle Woodland (89 vessels); early Late Woodland (1 vessel) and middle Late Woodland/St. Lawrence Iroquois (8 vessels). As can be deduced from these vessel counts, the most intensive occupation occurred during the middle Middle Woodland Period, between 1500 B.P. and 1000 B.P.. Several benchmark artifacts bracket

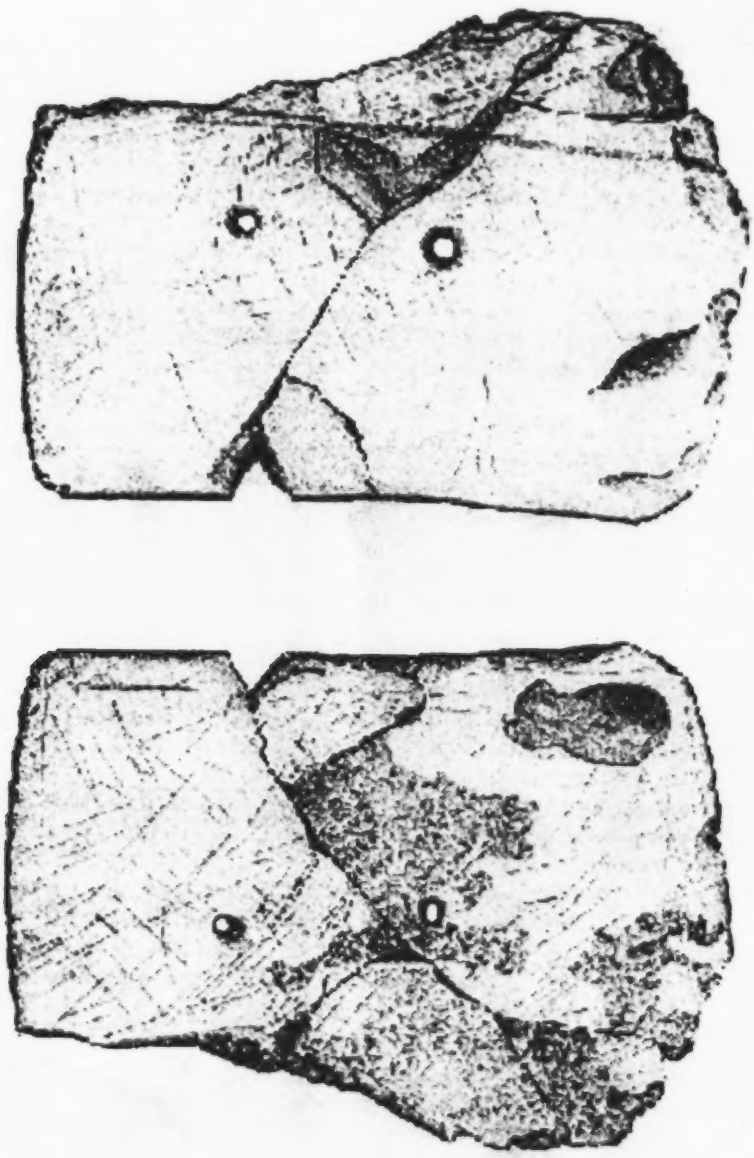

FIGURE 2. Early Woodland slate gorget from Glengarry Cairn National Historic Site. (Drawing by K. Scott)

the pre-contact occupation of the site. The oldest artifacts include an Archaic Orient Fish Tail point, and an awl and bead cold-forged from Native copper. At the other end of the spectrum, rim sherds decorated with earcorn and circle punctate motifs may have been deposited by the last persons to use the site around the early sixteenth century (Figure 1). An Early Woodland slate gorget was one of the more notable finds from the site (Figure 2). Radiocarbon dates independently mirror these interpretations. Five charcoal samples were sent to the Earth Sciences Laboratory at Brock University in St. Catherines, Ontario. Three samples from stratified deposits within a deep circular hearth provided nicely clustered dates of 3,695 +/- 80 yrs B.P. (BGS 2045), 3,950 +/- 90 yrs B.P. (BGS 2040) and 4,030 +/- 130 yrs B.P. (BGS 2046). Two other charcoal samples, from more shallow soil deposits produced radiocarbon dates of 300 +/- 200 yrs B.P.(BGS 2042) and 650 +/- 150 yrs B.P. (BGS 2043).

Artifacts from the pre-contact deposits support a multi-functional use for the site. Stone net weights and barbed bone points attest to the exploitation of local marine resources. Evidence of lithic and bone tool manufacturing and maintenance was also discovered. Clumps of unfired clay from the site suggest that ceramic production was also practiced. The activities revolving around foodways (procurement, processing, preparation and consumption) were represented by the variety of stone tools, ceramics and fire-cracked hearth rocks.

The occupants of Cairn Island looked in all directions for raw materials to make their stone tools. These materials originated from local sources and more distant quarries in Ohio (Flint Ridge), south western Lake Huron (Kettle Point), Maine (Mt. Keneo), Abitibi, Timmins and the Georgian Bay Basin.

Fifty-nine litres of sediments were processed from the large hearth feature believed to be associated with the Archaic occupation of the site. This large sample was floated and more than 1700 identifiable carbonized seeds, 88 grams of wood charcoal and a very tiny sample (0.43 grams) of nut remains were analyzed by Terra Archaeological Laboratories. Interpretation of this analysis revealed that strawberry, elderberry and bramble berries formed a significant portion of the diet for those who used this hearth. Goosefoot seeds were similarly abundant and small traces of butternuts and/or walnuts were also noted. A single, charred, baneberry seed suggests that this medicinal plant was used on the island. It was also discovered that pine, oak, maple, ash and popular-willow were used as fuel sources in the hearth.

The arduous task of analyzing close to 4,800 bone fragments was done by Ms. Debbie Berg of the University of Toronto. She identified some 18 species of mammals, 11 species of fish and 3 each of fowl and reptile. Amphibians and mollusks were also noted. As can be expected from a temperate boreal environment bordering a large body of water, the fauna consumed on the site included white deer, black bear, beaver, and snapping turtle, sturgeon, pike, catfish and perch. Inferences on seasonality could be discerned from the floral and faunal remains, although it should be noted that the plants and animals represented in the samples are from species that could have been processed and stored for later use. That being said, the floral and fauna evidence suggests that the site was used for most of the year, except during the winter months.

Eight weeks of excavation has produced an impressive array of archaeological material from this small island. The broad range of occupation suggests that the island was a preferred locale for marine and terrestrial resource exploitation. The stabilization of the cairn has been postponed until the future of the site is determined. In the meantime, Parks Canada is negotiating with local First Nations representatives to preserve the site and it's rich, multi-cultural resources.

REFERENCES

Cook, Ramsay (ed.)
1993. *The Voyages of Jacques Cartier*. University of Toronto Press. Toronto, Ontario.

PLAZA BRIDGE, OTTAWA LOCKS, RIDEAU CANAL

CAROLINE PHILLIPS, GINA MARUCCI AND VIRGINIA SHEEHAN

INTRODUCTION

The transfer of ownership of the Plaza Bridge from Public Works and Government Services Canada (PWGSC) to the Regional Municipality of Ottawa-Carleton(RMOC) prompted an assessment of the archaeological resources which might be impacted by restoration of the bridge. The land the bridge sits on is part of the Rideau Canal National Historic Site. The Stage 1 and 2 assessments were completed by Heritage Quest in 1996 (Sattelberger 1996; Daeschsel 1996). Based on their research, plus additional archival research by Parks Canada, further testing was recommended. The proposed design for the Plaza Bridge rehabilitation includes lowering the road grade beneath the west arch of the bridge and installation of utilities in the lawn area south of the west arch.

HISTORICAL BACKGROUND

Some of the first structures built in "Bytown" were at this location, beside the Ottawa Locks portion of the Rideau Canal. In the early 1800's there was little settlement in the Ottawa area, the main commercial centre being "Wrightville" or "Wright's Town" (later Hull) on the north side of the Ottawa River. The construction of the Rideau Canal and Upper and Lower Bytown on its west and east sides marked the beginnings of the city of Ottawa. The contractor who built the Ottawa Locks portion of the Rideau Canal, Thomas McKay, built his blacksmith shop beside the proposed canal excavation in Entrance Valley probably in late 1826 or early 1827. In the fall of 1827, the Sappers' and Miners' Bridge was completed to the south of the smith shop, spanning the proposed canal cut and joining the new settlements of Upper and Lower Bytown.

In the 1850s when operation of the Rideau Canal was transferred to the provincial government, there were structures on both the north and south sides of the Sappers' Bridge; the blacksmith shop, now the lock office, on the north side and the lockmaster's house and outbuildings on the south. The lock office stood until ca. 1872 when a second bridge was needed to handle downtown Ottawa traffic. The Dufferin Bridge was built right over the blacksmith shop/lock office and the plans for the bridge include instructions for the demolition. At the same time, the Sappers' Bridge was widened and an opening was cut through the stone to provide road access along the west side of the canal. Prior to this, the road was located to the west side of the smith shop. This route was closed in 1875 when a new post office was built on the west side of the vee formed by the two bridges. By this time a considerable amount of fill had been added to the west side of the west arch road grade.

The lockmaster's house and the two bridges stood until 1912 when a new bridge, the Plaza, was built to handle the ever-increasing traffic. The Sappers' bridge was demolished and parts

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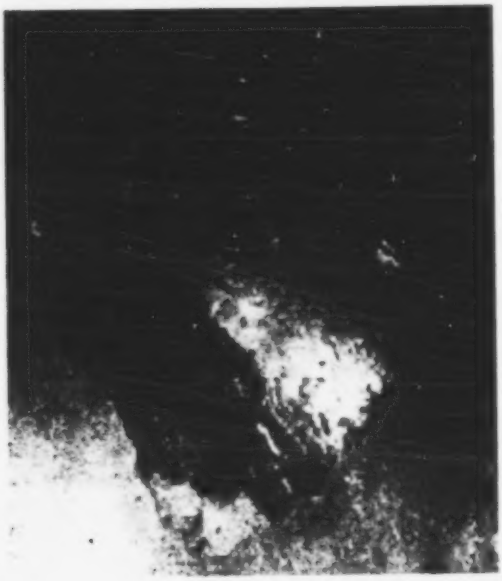

FIGURE 1. Footing of the 1872 Sappers' Bridge widening, sitting on bedrock, Plaza Bridge, Ottawa Locks, Rideau Canal. (Photo by J.-P. Jérôme; C-5/11)

of the Dufferin were incorporated into the new Plaza. Garages were built under the west arch of the new bridge for the Post Office and for the Department of Public Works. As the garages were expanded, fill was added beneath the bridge and the portals lining the canal were filled in. The post office was torn down in 1938 when the War Memorial was constructed and an addition was made to the south side of the Plaza Bridge at the same time. The garages were in use from the 1920s to 1950s and were torn down and replaced with government parking spaces. Parking ceased in the 1980s when pieces of the Plaza bridge began to fall. At this time the east and west sides of the west arch were fenced off leaving a single lane road as access to Ottawa Locks. By this date, approximately 3 metres of fill had been added to the original grade under west arch.

Three areas were tested during the 1997 field season: a midden located in the vicinity of the lock master's house, the Sappers' Bridge site and the blacksmith shop site.

LOCKMASTER'S HOUSE SITE

Eight one-metre square units were opened in the 5 metre diameter area identified by Heritage Quest as the midden site. Beneath seven to eight different fill layers, the result of years of landscaping activity in this area, a midden was located at 0.5 metres below surface. In two of the units, at 0.8 metres below surface, a stone drain (Figure 1) was uncovered below the midden. The artifacts from the midden, with a few exceptions, date to the late 19th century and early 20th century and are domestic in nature. The ceramics include white earthenware, vitrified white earthen

ware and 19th-century red earthenware with small quantities of hard- and soft-paste porcelain, coarse earthenware, Derbyshire and salt-glaze stoneware and creamware. Marked tableware pieces include: "Furnival" (1890-1910) (Kovel and Kovel 1986: 3), "Meakin" (mid-1870s), "Mayers" (1885-88) (Godden 1979: 273) and a ceramic toothpaste jar lid marked "D. Atkinson" which dates to c. 1857. Of the sixty one glass objects for which the mode of manufacture has been identified, fifty-two were mould blown, seven were machine-made and two were pressed. Machine-made bottles were first made in 1889 and other machine-made containers from 1893. The type of mould of six of the seven mould-blown artifacts has been identified: four were made in a two-part mould (1810-1880) and two in a multiple-part mould with a separate mould for the base (1850 onwards) (Jones and Sullivan 1985: 30-31). Eleven clay smoking pipe fragments were collected and one is marked "Bannerman/Montreal" (1847-1876) (Savard and Drouin 1990: 280-282).

Few artifacts were found in the layers beneath the midden. Identifiable pieces include white earthenware, coarse stoneware, pearlware and creamware sherds and a mould-blown glass sherd.

Although the majority of the artifacts date to the late 19th century, there are some from the early and mid-nineteenth century. Marked sherds date from c. 1857 to 1910, however, unmarked pearlware sherds were found in the same layers. Cross mends were found with sherds from above, below and within the midden. While the horizontal distribution of artifacts in this midden was concentrated within a 5 metre diameter, these artifacts are not in a primary deposit. They may have come from landscaping fill brought to the site, or the original site of the lockmaster's house may have been disturbed, possibly during the 1912 Plaza Bridge construction or 1938 Plaza extension. It is also possible that the drain which was found below the midden, cut through the original deposit and the artifacts were redeposited when the drain was buried. No evidence of an undisturbed deposit dating from the site of the original occupation of the lockmaster's house was found.

The limestone slab drain consisted of base stones, dry laid walls and 0.1 to 0.2 metre thick cap stones, none of which were dressed. The interior channel is 0.33 metres wide and approximately 0.28 metres deep. Based on the location of the two sections exposed, the drain appears to run from the southwest corner of the Plaza Bridge downhill to the canal. The drain is a carefully built structure which has survived in excellent condition. The craftsmanship points to an earlier time, at least prior to the use of weeping tiles. As it was not possible to get below the drain where artifacts may have helped to date the construction, this feature can only be dated to pre-1938.

The layers of soil above the midden and the drain contain 20th century artifacts and asphalt, gravel and topsoil and are believed to date from the Plaza Bridge construction, extension and later landscaping activities.

SAPPERS' BRIDGE SITE

Test excavations for the Sappers' Bridge remains were limited to the fenced area on either side of the access road beneath the bridge. A large section of the paving from the former parking areas and the concrete and brick floors of the former garages were removed by backhoe so that excavations could proceed without delay when remains were encountered.

On the east side of the access road, a trench 21 metres long and 1 to 5 metres wide was excavated to reveal an irregular surface of limestone bedrock at 0.2 to 0.32 metres below surface. In a few places there were traces of lime mortar adhering to the bedrock.

On the west side, the stone base of the 1872 widening of the Sappers' Bridge was exposed. It consisted of 55 centimetres of dressed limestone sitting on bedrock. This stone work had been severed by the concrete garage foundations. A small portion of the south end of the original Sappers' Bridge was also located. It consisted of mortared rubble limestone and was in poor condition. A finished face on the east side of both sections suggest this may be the edge of the opening cut through the bridge around 1872. Very few artifacts were found in these areas.

BLACKSMITH SHOP SITE

Using the plan for the Dufferin Bridge, which included the location of the lock office prior to its removal, two trenches were opened up over the site on the east and west sides of a 1 metre deep concrete garage footing. An examination of the archival illustrations of the structure indicated that the shop was at or close to the water level of the canal, which meant that over 3 metres of fill had to be excavated. With the help of a backhoe, the trench was excavated to a depth of 3.1 metres. The fill consisted of rubble stone and large amounts of lime mortar; this could have come from the destruction of the shop itself, from the destruction of the Sappers' or Dufferin Bridges or could have been brought in as fill after 1872 when the garages were built. Ceramic sewer pipes, lead pipes and electrical cables were all encountered, probably dating to the garages. As the depth of the excavation exceeded the level of fill to be removed during Plaza Bridge rehabilitation, excavation ceased at this level. No traces of charcoal, slag or iron artifacts which would indicate the floor of the 1827 shop were located. If anything remains of this structure, it must be even deeper and will be easier and safer to locate when the road level is being lowered during construction.

CONCLUSIONS

As a result of these excavations, PWGSC recommended to RMOC that Parks Canada archaeologists be on site during any below ground disturbance beneath the west arch of the Plaza Bridge. The remains of the Sappers' Bridge are located on construction plans as a protected area and these remains will be stabilized and included as a display in the newly designed area beneath the bridge. The midden south of the Plaza Bridge has been sampled; the material is not from a primary deposit and does not date to the period of commemoration of the Rideau Canal as a National Historic Site (1827-1850) and clearance was given for construction to proceed without monitoring in this area.

REFERENCES

Duechsel, Hugh J.
1996. "Stage 2 Archaeological Investigations of the Plaza Bridge". Heritage Quest, Kingston, Ont.

Godden, Geoffrey A
197. *Encyclopaedia of British Pottery and Porcelain Marks*. Bonanza, New York.

Jones, Olive and Catherine Sullivan
1985. *The Parks Canada Glass Glossary for the Description of Containers, Tableware, Flat Glass and Closures*. Studies in Archaeology, Architecture and History. Parks Canada, Ottawa.

Kovel, Ralph and Terry Kovel
1986. *Kovel's New Dictionary of Marks*. Crown Publishing, New York

Savard, Mario et Pierre Drouin
1990. *Les pipes a fumer de Place-Royale*. Collection Patrimoines, Dossiers. Publications du Quebec. Quebec.

Sattelberger, Peter
1996. "Stage 1 Archaeological Assessment of the Plaza Bridge Crossing. City of Ottawa." Heritage Quest, Kingston, Ont.

1997 EXCAVATIONS AT THE ALLEN SITE EcJs-1, SIOUX LOOKOUT DISTRICT, ONTARIO

JEAN-LUC PILON* AND LUKE DALLA BONA

The Allen site (EcJs-1) is located on a large sand flat on the north side of the outlet of Fairchild Lake where a fine sand beach extends approximately 1 kilometre in a north/south direction. An active sand spit is building at the southern end of the beach where the outflow of Fairchild Lake (Marchington River) is located. The Marchington River eventually empties into Lac Seul near Sioux Lookout, some 70 kilometres to the southwest.

PREVIOUS INVESTIGATIONS

In 1995, a surface inspection by Luke Dalla Bona and Darren McCormick identified two distinct localities (Dalla Bona 1996:19-30). In total, 133 artifacts were collected from the surface and from test pits. These included debitage, cores and core fragments, scrapers, side-scrapers, unifaces, bifaces and distinctive trihedral adzes (Figure 1). Raw materials included fine grained cherts, greywake, schist, greenstone and jasper taconite.

Several test pits were excavated with quite mixed results. Some showed absolutely no buried soil layers while others attested to many periods of apparent stability (paleosols) followed by extensive deposition of sand.

In one test pit along the edge of the bench, the face of the terrace is being undercut by high water from the Lake causing minor slumping of the face. The soil profile is consistent with this assumption as soil lenses can be seen to dip toward the lake. Approximately 50-60 centimetres below the surface, a swirling series of soil lenses was encountered (Figure 2). This layer varies in thickness but ranges between 5 and 10 cm. Immediately below the above described layer is a rocky/gravelly layer at the interface of which artifacts were excavated in situ. Numerous flakes, large pieces of raw material including cherts, quartz and greenstones were recovered.

In 1996, Dalla Bona returned to the Allen site with Ted Binguis (1997:19-42) and excavated a single test unit (approximately 6 square metres) at the edge of the eroding terrace behind the active beach, in an area that had previously yielded a great deal of artifacts. At a depth of 40-50 cm he encountered a dense deposit of implements (including additional adzes and adze fragments, and the tip of a native copper awl), debitage, cobbles and fire-cracked rocks. The distribution stood out as highly suspicious. Artifacts were found in a dense concentration on one side of a seemingly artificial line lying more-or-less parallel to the eroding terrace front. Moreover, there appeared to be a "corner" or a sharp and distinct turn in the concentration at one end of the excavation (Figure 3). Faced with such a unusual distribution, Dalla Bona wondered if this might not represent the remains of the interior of some kind of a man-made structure.

1997 INVESTIGATIONS

In 1997, Dalla Bona invited Jean-Luc Pilon to join him in his investigations of the Allen site (Pilon 1998:6-23). Pilon was particularly intrigued with the artifact distribution and also the possibility that others had used the site area since ceramics had been found elsewhere along the beach. Together

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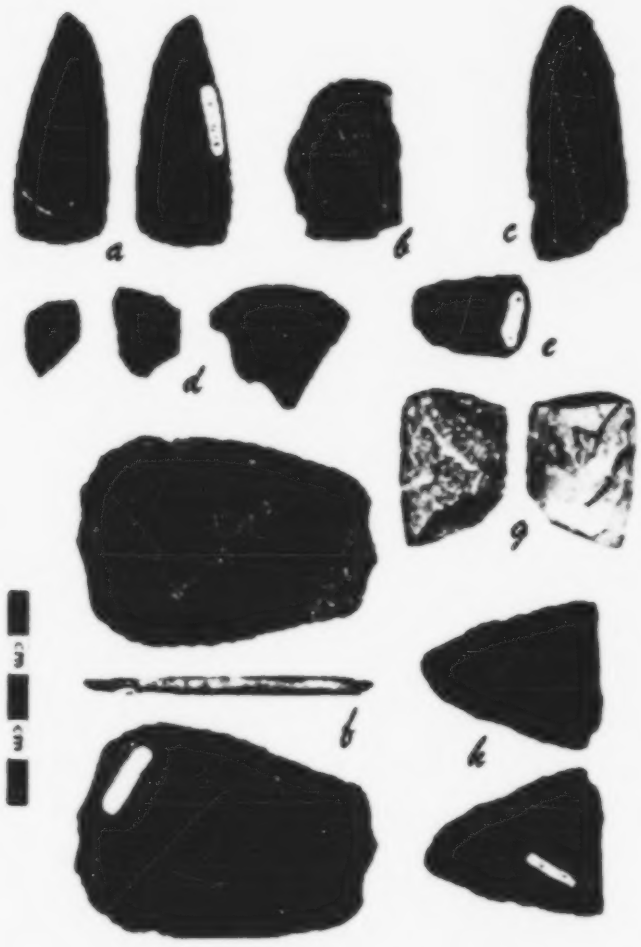

FIGURE 1. Tools surface collected from the East Beach of the Allen Site: (a) basalt endscraper; (b) greenstone adze; (c) greywacke biface tip; (d) taconite endscrapers; (e) greenstone endscraper; (f) greywacke sidescraper; (g) greenstone biface mid-section; (h) greywacke biface tip.

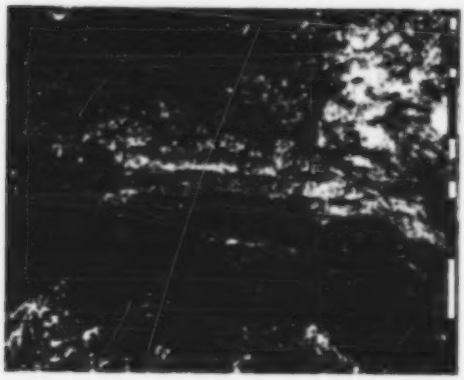

FIGURE 2 . Deeply buried organic lenses

with Ted Binguis, they undertook the excavation of a series of test units on the terrace behind the active beach and found materials in a number of them. In all cases, the artifacts, mostly lithic debitage, but also some ceramic sherds, occurred in the upper 10 cm of the units. This established that others had used the terrace in addition to the makers of the adzes.

In order to better understand the stratigraphic context of the 1996 artifact deposits, three trenches were excavated from the edge of the terraces towards the interior (Figure 4). These were located behind particularly dense beach artifact deposits. One in particular, Trench A, yielded a key profile described below.

STRATIGRAPHY AND ARTIFACT DISTRIBUTION

In the upper few centimetres of the profile, a few small stone flakes were found (Figure 5). This confirmed discoveries made in the test pits elsewhere on the terrace. Another artifact bearing layer was found at a depth of some 30-40 cm, not unlike the depth of the 1996 excavations by Dalla Bona and Binguis. However, as excavation of this layer proceeded towards the front of the unit, a definite sloping of the layer indicated that slumping was affecting the vertical location of the artifacts from this occupation which also included ceramics.

In most circumstances, excavations would have ended there since apparently sterile beach sands had been reached. However, the front part of this trench, Unit 1, included the very back of the active beach, where, under 15-20 cm of beach sand, a dense concentration of artifacs and fire-cracked rock had been found. The slumping ceramic bearing layer seemed to be the source of these beach artifacts. On the other hand, it was also possible that the beach artifacts were part of a more deeply buried and undisturbed layer extending back into the terrace. Consequently, excavations in the rear portion of the trench, Units 2 & 3, continued in what were thought to be deposits of geomorphological interest only.

Such was our surprise when at a depth of more than 90 centimetres below surface, two flakes were found. Not possible flakes, but good biface trimming flakes. Further, these occurred in a darker, humic sand which appears to be some kind of a former stable surface. In fact, further excavations revealed a second palaeosol only centimetres deeper. More flakes were found as well as small pieces of charcoal.

As a result of this work, three distinct occupation layers could thus be contributing to the deposit of beach artifacts which appear to have been reworked into dense clusters at the back of the active beach. The site is thus clearly multi-component and the beach collections evidently representative of several distinct occupational episodes.

RADIOCARBON DATING

Since this fieldwork, charcoal samples from the two palaeosols were submitted for radiocarbon dating. Because of the relatively small amounts of charcoal actually recovered, they were processed through the use of the AMS technique. The results were clearly exciting. The dates were 8050 (80 B.P. (Beta -111666) and 8160 (80B.P. (Beta-111667).

It must be pointed out that these radiocarbon dates relate to the palaeosols proper and not to the human occupation since the charcoal did not come from a hearth feature or some other single moment that can be linked to the people who lived there. However, a working hypothesis is that

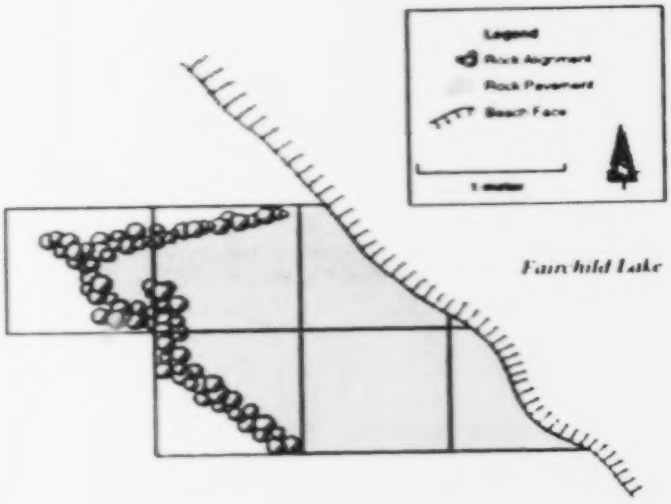

FIGURE 3 . 1996 Exacavations Showing an Unusual Rock Concentration

FIGURE 4 . Ted Binguis and Jean-Luc Pilon excavating Trench A

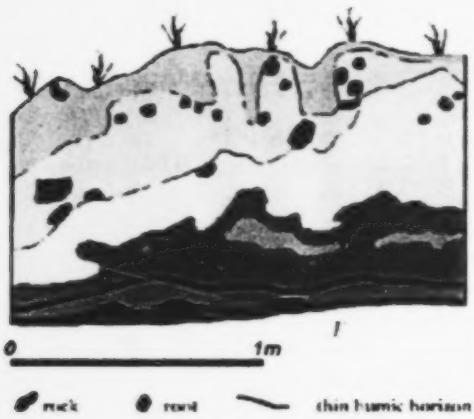

FIGURE 5 . South Wall of Trench A, Units 2 & 3

people lived on the site when these palaeosols were exposed surfaces and further that these surfaces did not remain exposed for more than a few centuries at the most. In other words, these dates are quite likely good approximations of the age of the occupation.

8100 YEAR OLD ARTIFACTS

Although the sample of artifacts from the deeply buried occupation layer is small (36 pieces), it should be recalled that only approximately 2.5 square metres were in fact exposed. Remarkably, there is quite a diversity of raw materials represented, from fine-grained cherts to quite coarse-grained materials. The latter are of some interest in that several of these specimens are biface thinning flakes. One in particular retains a completely ground platform area, very much as would be found if it had been removed from a partially ground artifact, such as the chipped and ground adzes which have been found at the Allen site, albeit in surface or mixed contexts.

The two radiocarbon dates, if they relate to the occupation(s) which left the trihedral adzes (Figure 6), provide the first known radiometric estimates on this particular artifact type that has been found in Northwest Ontario and in adjacent Manitoba (Buchner 1979; Fox 1977a, 1977b). In Manitoba these adzes are a key artifact type in defining the Caribou Lake Complex which is thought to date to late Plano times (Buchner 1984). More recently, Wright has assigned the Caribou Lake Complexe to the Early Shield Archaic tradition (Wright 1995:121,122).

At least one specimen in the 1997 excavations has been tentatively identified at Hixton silicified sandstone. Others found in previous investigations at this site have been found as well. This raw material seems to originate in west central Wisconsin (Ross 1991:14) and has been found predominantly in assemblages associated with the Interlakes Composite Plano manifestations which

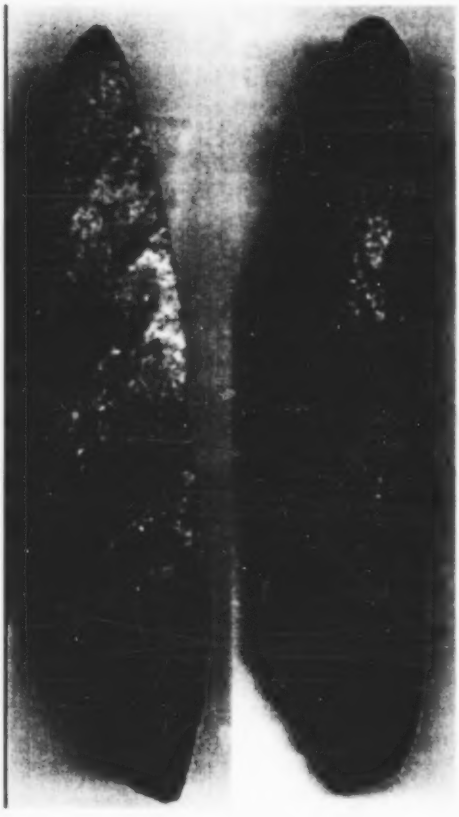

FIGURE 6 . Trihedral Adzes from the 1996 excavations

have been documented in a broad area adjacent to the western end of Lake Superior (Ross 1991).

SUMMARY

It seems apprent that these implements were made and used by some of the earliest occupants of the region which was being liberated from the grip of the receeding Laurentide Ice sheet (Dyke and Prest 1987; Pettipas and Buchner 1983). The Allen site offers the possibility of acquiring a stratigraphically separated and unmixed collection from this critical time period.

REFERENCES

Buchner, A.P.
1979. The 1978 Caribou Lake Project, Including a Summary of the Prehistory of East-Central Manitoba. Papers in Manitoba Archaeology, Final Report No.8. Department of Cultural Affairs and Historical Resources, Winnipeg.

1981. Sinnock: A Paleolithic Camp and Kill Site in Manitoba. Papers in Manitoba Archaeology, Final Report No.108. Department of Cultural Affairs and Historical Resources, Winnipeg.

Dalla Bona, Luke
1996. Archaeological Surveys in the Caribou West Timber Management Unit, Sioux Lookout District, Ontario License #95-113. Report on file with the Ministry of Citizenship, Culture and Recreation, Toronto.

1997. Archaeological Surveys in the Caribou Management Unit, Sioux Lookout District, Ontario License #96-092. Report on file with the Ministry of Citizenship, Culture and Recreation, Toronto.

Fox, William A.
1977a. The Lakehead Complex-New Insights. Data Box 349, Ministry of Culture and Recreation, Toronto.

1977b. The Trihedral Adze in Northwestern Ontario. Data Box 350, Ministry of Culture and Recreation, Toronto.

Dyke, A.S. and V.K. Prest
1987. Late Wisconsinan and Holocene history of the Laurentide Ice Sheet. Gographie physique et Quaternaire, XLI(2):237-263.

Pettipas, L.F. and A.P. Buchner
1983. Paleo-Indian Prehistory of the Glacial Lake Agassiz Region in Southern Manitoba, 11 500 to 6500 B.P. In Glacial Lake Agassiz, edited by J.T. Teller and Lee Clayton. Geological Association of Canada, Special Report 26:412-451.

Pilon, J.-L.
1998. 1997 Field Activities in the Black Bay Region, Thunder Bay District, Ontario and at the Allen Site (EcJs-1), Sioux Lookout District, Ontario. Report on file with the Ministry of Citizenship, Culture and Recreation, Toronto.

Ross, W.A.
1991. The Interlakes Composite: A Re-Definition of the Initial Settlement of the Agassiz-Minong Peninsula. Wisconsin Archaeologist, 26(2):1-30.

Wright, J.V.
1995. A History of the Native People of Canada. Archaeological Survey of Canada Mercury Series Paper No.152, Canadian Museum of Civilization, Hull.

LAURIER HOUSE NATIONAL HISTORIC SITE, OTTAWA

JILL PLITNIKAS, CAROLINE PHILLIPS AND VIRGINIA SHEEHAN

At Laurier House National Historic Site in Ottawa, Ontario, an archaeological excavation took place in June 1997 prior to the repointing of the foundations and site landscaping. Project archaeologist Caroline Phillips, supervised a crew of eight plus several volunteers in the excavation of approximately 18.5 square metres against the foundation of the house. Efforts were concentrated along the north wall of the house beneath the site of a former veranda as archaeological testing in the fall of 1996 had revealed the presence of a midden in this area. Several thousand artifacts were recovered from the midden (Figure 1). Preliminary analysis indicates the material dates to the late 1800s-early 1900s, from the original occupants of the house, the Leslie family (who lived there from 1879-1896).

Laurier House was built in 1879 by the wealthy Ottawa jeweller, John Leslie, who named the house 'Kininvie'. On his death, it was sold to the newly elected Prime Minister, Wilfrid Laurier and his wife, who moved into the house in the fall of 1897. Sir Wilfrid died in 1919 and when Lady Laurier died in 1921, she left it to William Lyon Mackenzie King, who succeeded her husband as leader of the Liberal Party. King lived in this house, most of the time as Prime Mininster, until his death in 1950. He bequeathed the house to the Government and people of Canada along with a trust fund for upkeep. It opened as a museum in 1951 and is now operated by Parks Canada.

Preliminary analysis of the artifacts from the midden suggest that they are from cooking activities and servants' ware. The collection is characterized by domestic material such as tableware, servingware, teaware and other vessels related to the preparation and cooking of meals. A large number of bottles were also recovered, most of which are related either to the consumption of alcohol, pharmaceutical and medicinal products or food flavouring extracts. Artifacts related to the arrangement and decoration of the house include two different Vienna-shaped lamp shades and many different lamps shades used in kerosene lighting. Flower pots, jardinieres and one highly ornate glass vase are related to horticulture and decoration. It is interesting to note that no specific tableware or teaware set can be identified; rather there are a variety of shapes and sizes and these have an almost total absence of decoration. Most of the vessels identified were among the most economical types available in the second half of the 19th century. The porcelain vessels are either plain or of a Gothic shape, a style that was in fashion in the 1840s (DiZerega Wall 1991: 78), at least forty years prior to the construction of the house and deposition in the midden. The absence of the latest in labour-saving devices in the collection, typical to a house that had servants and hence labour (Horn 1990: 34), also suggests

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FIGURE 1. Domestic artifacts in the midden beneath the former rear verandah of Laurier House. (Photo by C. Phillips; 99H-134M)

that this is a servant-related collection.

A second midden was located to the east of the former verandah site, on the northeast corner of the house. This was only partially excavated as it was beyond the area to be impacted by the construction activity. The artifacts are similar in ware to those found in the midden beneath the former verandah. This midden also contained small pieces of metal, fragments of broken objects, that were evidently being melted and poured into a sand mould. An unfinished belt buckle which contained air bubbles, and was evidently rejected, was found with the fragments along with small pieces of cut leather, possibly more from belt fabrication.

Test units were also dug along the east and west walls, the back east wall, the north wall, and the north and west sides of the front verandah. Soil samples were taken for pollen and seed analysis to aid in future landscape restoration. Monitoring of the construction excavations that followed the archaeological testing took place throughout the summer and fall.

Additional foundation testing is planned for 1998 beneath the front verandah and to search for additional landscape features such as the flag pole site and front fence.

REFERENCES

Di Zerega Wall, Diana
1991. "Sacred Dinners and Secualr Teas: Constructing domesticity in Mid-19th Century New York". *Historical Archaeology*, Vol. 24, no. 4.

Horn, Pamela
1990. *The Rise and Fall of the Victorian Servants*. Alan Suton, Wolfeboro Falls.

NATIONAL PARKS AND NATIVE SITES ARCHAEOLOGY, PARKS CANADA, ONTARIO SERVICE CENTRE: 1997

BRIAN D. ROSS, CESARE D'ANNIBALE AND KYLA SPENCE

ST. LAWRENCE ISLAND NATIONAL PARK: WEST GRENADIER ISLAND (36H19 & 40)

[Parks Canada Permit: 97-6H]

As part of a long term programme to mitigate the removal of facilities in St. Lawrence Islands National Parks, a four week salvage excavation was undertaken at West Grenadier Island, in 1997 (Figure 1). The presence of a picnic shelter was deemed inappropriate in an area slated for environmental rehabilitation. The removal of this building, overlooking a small bay to the northwest, provided an opportunity to test the nature of previous archaeological assessments. Archaeological work at the western end of Grenadier Island began with J. V. Wright's initial survey of St. Lawrence Islands National Park in 1978. He noted the presence of some "firestone fragments" and a flake along the west shore of the small bay on the northwest side of the Park property (Wright 1978:66). During a 1993 archaeological resource evaluation of the Park, more evidence for both Aboriginal and Historic use of this area was discovered (Northeastern Archaeological Associates 1994). As a result of this evaluation, the Aboriginal material from West Grenadier, which consisted mostly of ceramics, was assigned to the Middle Woodland period.

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The impending removal of an interpretive sign and a cash box were also mitigated during the 1997 project. The intervention at the sign locale provided an opportunity to document cultural resources associated with the site of the West Grenadier navigation light, built c. 1905. This structure is found on the high rocky bluff on the southwest shore of the property (Figure 1). The foundations of the earlier lighthouse keeper's house, built in 1866 (Bates 1987:48-52), a stone lined well, and associated middens were also recorded (Figure 1).

The main excavation revealed a number of events for the West Grenadier site. A substantial historical component was identified which consisted of the remnants of a structure built sometime around the third quarter of the 19th century. The historic artifact assemblage consists mostly of architectural items. The number of food consumption and preparation artifacts were few, with only eight specimens. Storage and processing artifacts, such as crocks, accounted for five artifacts. A few personal and activity related items, representing writing, smoking, transportation and hunting were also found. The only tool to be recovered was a pick head. Faunal material was found exclusively on a cobble floor feature, and represented both wild and domestic species. This exterior cobble stone floor, measuring 1.75 x 1.50 metres, was discovered next to what would have been the south wall of the structure. Coal fragments were found in large quantities towards the south end of the structure. The structure was abandoned or destroyed early in the 20th century. Evidence of a

devastating fire was apparent, but whether the fire occurred before the abandonment of the building is uncertain.

Overall, the whole historic assemblage points to sporadic domestic use in association with hunting and fishing. It would appear, however, that work associated with receiving commodities, such as coal, was the main activity at this site. This area is the closest sheltered bay at this end of Grenadier and, therefore, the structure here possibly coincides with the main docking facility for the provisioning of both the Lighthouse Keeper's House and the Lighthouse.

As for the Aboriginal assemblage, lithics are typically few, consisting of only 15 artifacts. Quartz and chert flakes constitute the chipped stone assemblage, while ochre and mica fragments account for the rest. The only formal and diagnostic artifact recovered was a side notched projectile point (Figure 2). An exact identification of this projectile, as to type, is not possible since the piece has been re-notched, likely due to damage through use. The closest matches for this point are with Middle Archaic types such as Brewerton side notched or Otter Creek varieties. Archaic material has been recovered from other areas on Grenadier Island as well as from neighboring island and mainland sites (Wright 1978:55; 1980:26-27; Archaeological Services Inc. 1993:69-70). However, the six (6) ceramic vessels identified in the collection suggest a more intensive use of the site during the Middle Woodland Period. The pseudo-scallop shell technique of vessel decoration is the most dominant, occurring on three vessels. The relatively high incidence of this technique hints at a Point Peninsula occupation. The ceramic tradition in the area tends to a gradual decrease in the popularity of this technique towards the later stages of the Middle Woodland (Spence et al 1990:143). The presence of dentate decorated sherds indicates a later stage occupation at West Grenadier, perhaps associated with the Pickering phase. This period of occupation is substantiated by the one Aboriginal feature found -- a stone filled hearth with a diameter of 1.75 metres, consisting of two distinct layers of beach cobbles. In this regard, a wood charcoal sample returned a date of 1140 years BP +/- 60 (ISO#970335 Lab #82010).

The Native component of the West Grenadier site is typical of most small Aboriginal sites found on the St. Lawrence islands. Such sites as the previously excavated Mulcaster Island East (D'Annibale and Ross 1994:14-15) and McDonald Island (Ross and D'Annibale 1996:116) sites represent a pattern of repeated short term occupation along sheltered small bays and inlets. Furthermore, the pattern of small site utilization on the majority of these islands indicates task specific resource exploitation. Although the archaeological evidence on West Grenadier may lend credence to the hypothesis that such a tradition of transitory island exploitation may date to an earlier period, most research (much of which has yielded reliable radio carbon dates) indicates that the intensive island utilization is truly a Middle Woodland phenomenon. It is anticipated that further mitigation within the Park will continue to provide a compendium of small site research that will be illustrative of the St. Lawrence River valley's human history.

PUKASKWA NATIONAL PARK: PIT SITE RECORDING AND INSPECTION (28H)

[Parks Canada Permit 97-7H]

The 1997 field season at Pukaskwa National Park was a continuation of the systematic programme of site recording, inspection, and discovery initiated in 1994. Before this date, the emphasis had been placed simply on recording, for posterity, the enigmatic cobble stone structures known collectively as "Pukaskwa pits" and monitoring those pit/petroform sites threatened by natural factors and human visitation. By 1994, though, it had become obvious that many petroform sites existed in the park that had not previously been reported. It was therefore decided that every previously reported site, previously identified cobble beach, and newly recognized beach needed to be methodically investigated, from the southern park boundary northwards. By 1997, the project had reached

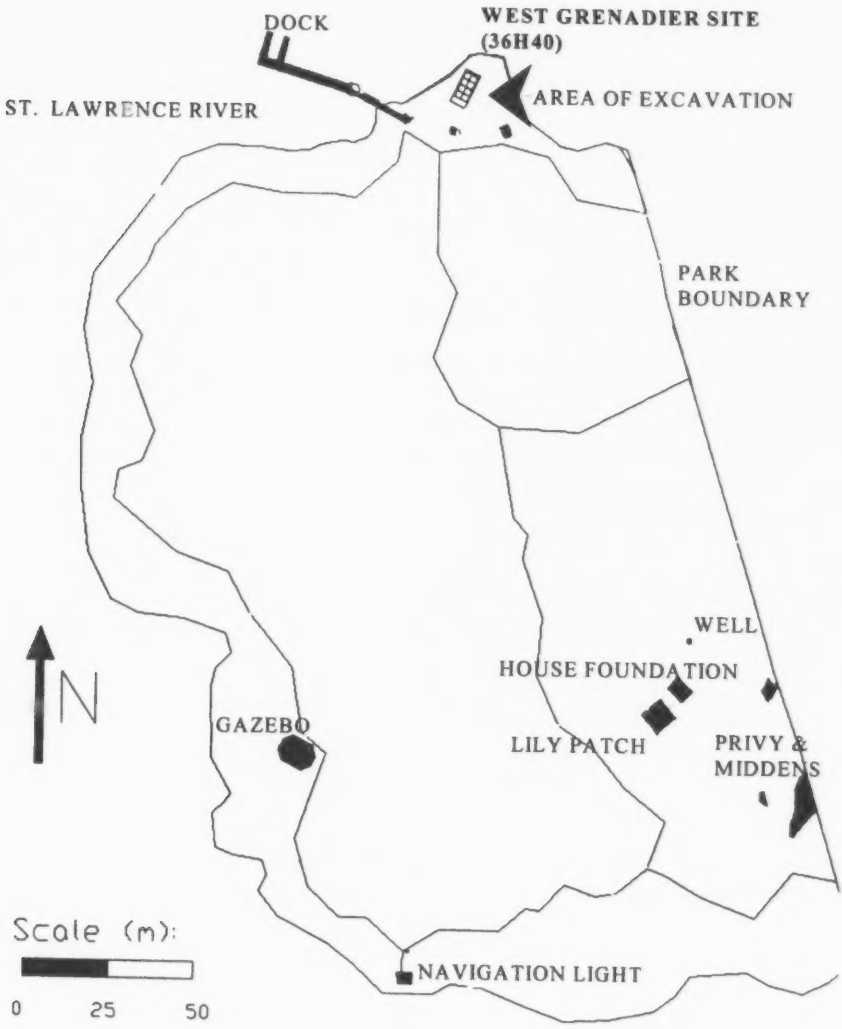

Figure 1: Location of 1997 Excavations and Other Cultural Features, West Grenadier Island, St. Lawrence Islands National Park

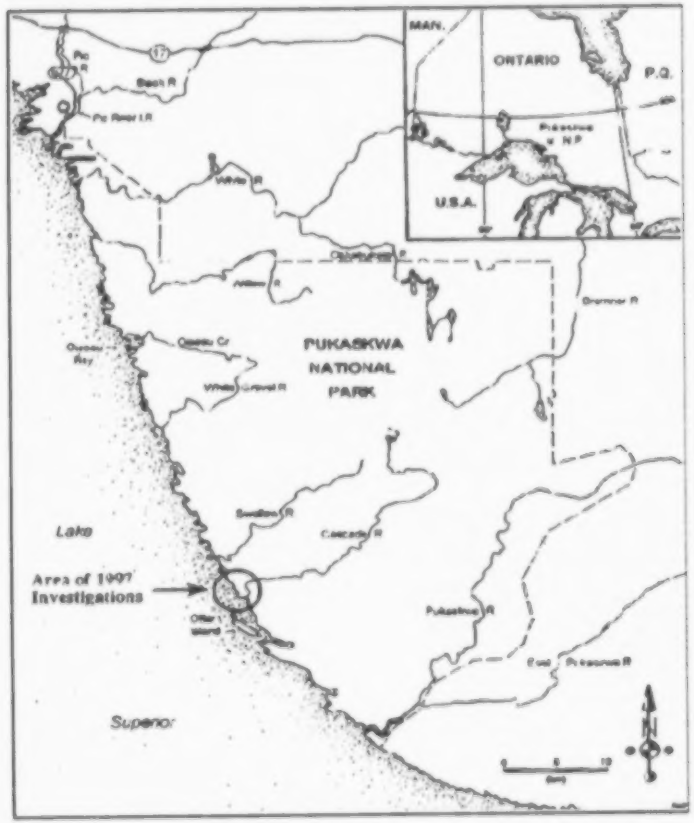

Figure 3. Map of Pukaskwa National Park, showing area of 1997 investigation

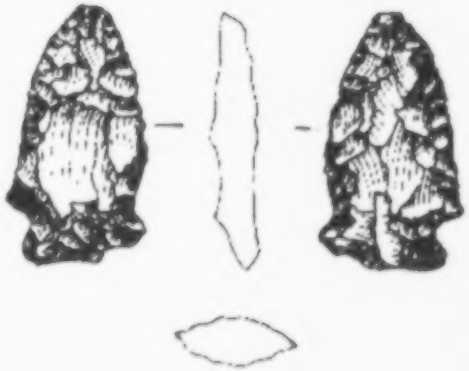

FIGURE 2. Side-notched projectile point. West Grenadier Site. St.Lawrence Islands National Park.

the Cascade Falls area, at the mouth of the Cascade River (Figure 3).

The immediate Cascade area contains six petroform sites, two of which are quite large and had already been fully documented. Three of the other sites, including two historic logging sites, simply needed to have beach cross-sections surveyed to complete their dossiers. Discovered in 1993 (Farvacque 1994: 7), the Cascade Falls site (28H40) needed to be relocated and fully documented. This site consists of a single petroform feature located in a narrow gully leading off the pool above the falls. This feature is a sturdy, walled pit nestled against the gully's granite face. It measures approximately 3.5 metres in diameter and is more than 0.8 metres deep, surrounded by walls of granite blocks that taper from 0.6 to 1.5 metres thick. Farvacque(1994) argues that, because of its generally damp conditions, this pit would have been inhospitable. He speculates that this feature may have functioned as a stock-area or holding cell for fish caught in the adjacent pool or from the gully itself during periods of high water.

To the north of Cascade, a monitoring infrastructure was installed at the North Byron Township site (28H54). This site had been discovered and documented in 1993 (Ross 1994:13). The presence of a well-established game trail across the site was thought to pose a possible threat to the fragile petroform features located there. These features occur in two nodes: a cluster of three simple round pits at the far western side of the beach and a much larger complex of pave features to the east (Figure 4). Paves are areas of a site where the larger stones have been removed and the remaining smaller stones form a uniform pavement. Paves are considered to represent living floors associated with tents and lean-to structures. In many instances, large stones around the perimeter of these features may have served as weight stones to hold down the edges of temporary structures. Larger stones are also often used to demarcate or subdivide a large pavement into smaller areas or compartments. There are three paves at North Byron Township. The largest paved area is quite extensive and may indicate a much larger, communal activity area around the simpler living floors. There is also a deep cache pit in association with this pavement.

Further north, on the next cobble beach, is the North Byron II site (28H58). This is one of the largest, most complex petroform sites in the park, spread over ten relict beach terraces. At the time of its discovery, in 1974, 21 features were identified (Dawson 1975: 81). In 1993 and 1994, a concerted mapping project at this site increased the number of features to 57 (Farvacque 1997: 338-343). The overall site can be divided into four general clusters of petroforms. The first and lowest site component, on the third and fourth terraces, consists of one simple pit and two rudimentary paves. The second site component, on the fifth, sixth and seventh terraces, has 15 structures. The most impressive array of features here is a line of well-defined paves and large stone rings along the edge of the fifth terrace. The third site component occurs at the eastern end of the eighth and ninth terraces. The 11 features here contain some of the most obscure, poorly defined features of the site, consisting mostly of shallow pits and indistinct stone rings. With 28 features, the fourth site component is the largest and highest at the site.

Ranging from the tenth to fourteenth terraces, the features of the fourth component cover an area measuring 31 x 68 metres. The features here are quite distinct and many are quite unusual. More than one-third of these features are simple circular pits averaging 1.3 metres in diameter and 0.2 metres deep. These pits are likely small, opened cache pits. Oval pits with basin-shaped floors constitute another common feature type, averaging 1.9 metres long by 1.5 metres wide and 0.2 metres deep. Some of the smaller examples may again be cache pits, but some of the larger pits may have served as single person habitations. To the northeast are two large mound features, approximately 0.5 metres high. These features may be unopened cache pits. The truly remarkable features at North Byron II occur to the southwest and consist of two large compound structures linked by a low stone wall. These structures are over 5x3 metres in size and average 0.53 metres deep. Both are subdivided into multiple rooms

or compartments. These structures may have served as larger, multi-person habitations and the intervening wall may have served as a wind break to shelter a communal exterior activity area. A third unusual structure, in the vicinity, consists of a 3.4 X 2.2 metre basin shaped pit inside of a 4.8 X 3.4 metre pit with an otherwise flat floor. It is thought that this configuration may represent the remains of a cache pit below the floor of an habitation structure. There is also a large and well-defined pave nearby.

It is interesting to note that the North Byron II site was one of the sites included in the 1996 experiment at dating petroforms through determining surface hardness (Ross et. al. 1997:116-117). In short, the theory behind the experiment is that weathering affects the surface hardness of exposed rocks and that this hardness can be measured and used to determine the length of time that a rock has been exposed to the elements. The experiments at North Byron II indicated three phases of construction at the site: the first phase was at ~980 BP +/- 130 years, followed by a second phase at ~650 BP +/- 100 years, and then the last phase at ~400 BP +/- years (Betts 1996:23). In other words, it is possible that the first petroforms were constructed here as early as 840 A.D., perhaps by the Laurel people; while the last features were built as late as 1630 A.D., perhaps by the Historic Ojibway. The bulk of the site's construction, though, seems to be attributable to the Blackduck, dating on average from 1170 - 1376 A.D.

When viewing such sites as North Byron Township and North Byron II, one has to be impressed by the obvious settlement patterning that is still extant. The ability to perceive the arrangement of dwellings and the association of caches readily, hearths, cairns, and pole supports that date to the region's Terminal Woodland Period is really quite amazing. As the Pit Inspection and Documentation Project moves northward, new sites will continue to be found. Indeed, new features continue to be identified at previously reported sites, as rresearchers become more attuned to reading the clues preserved in the stone of Pukaskwa's relict cobble beaches.

TRENT-SEVERN WATERWAY: HEALEY FALLS ARCHAEOLOGICAL SALVAGE (45H19, 20)

[Parks Canada Permit: 97-8H]

In August 1997, the second season of salvage excavations was conducted at the Healey Falls site, a multi-component portage and campsite located along the Trent River near Campbellford, Ontario. The site is situated on a flood plain below a Trent-Severn Waterway control dam, and, consequently, is inundated each spring when several gates of the dam are opened to regulate local water levels. A previous archaeological survey at Healey Falls has determined that, although the cultural deposits located on an elevated gravel bar have remained relatively undisturbed by this annual flooding, the low-lying areas of the site have suffered from significant erosion and redeposition (Ross and D'Annibale 1996b: 17). In 1996, to protect cultural resources from being lost to erosion and to ascertain stratigraphic information for the site area, an L-shaped trench was excavated along the slope between the elevated bar and a washout gully (see Ross, D'Annibale and Spence 1997:117-119). This year, the long axis of the trench was extended to the base of the escarpment that defines the southwestern edge of the current study area. In addition, several new units were placed around the vertex of the 1996 trench, as this was the area most immediately threatened by erosion. In total, 62 square metres were excavated and 7250 artifacts were recovered.

The extension of the trench to the base of the bluff provided evidence that indicates a substantial Native site component may be situated on the plateau atop the escarpment. This upper plateau, which lies between the original falls and the modern falls (Figure 5), is also the location of a 19th century logging site and a 20th century dam construction site. Material from both historic events is found on the lower site. Earlier cultural material also appears to be eroding out of the escarpment. Excavations at the foot of the cliff recovered many artifacts among the talus, includ-

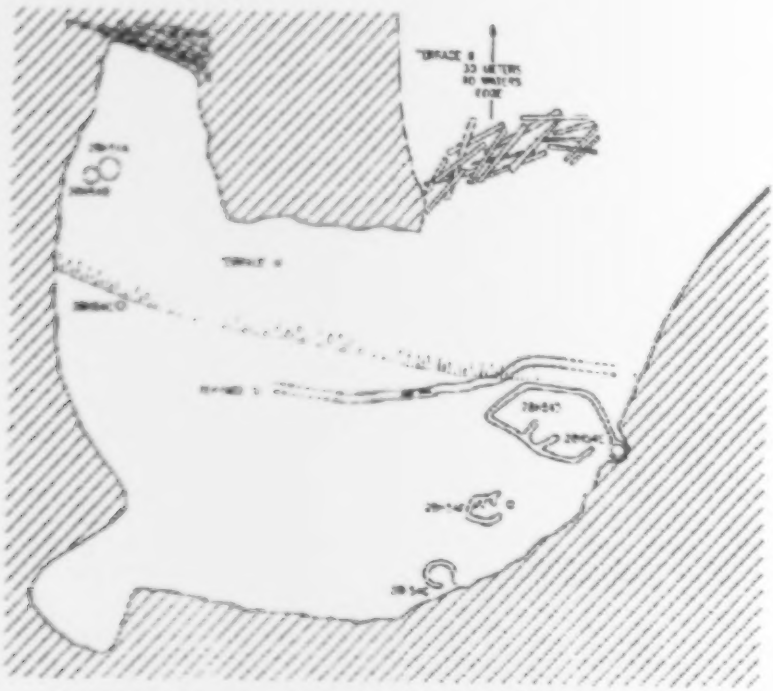

Figure 4 Site plan of the North Byron Bow-tip site (28H54), Pukaskwa National Park

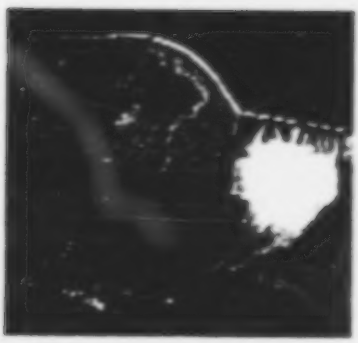

FIGURE 5. Location of the Healey Falls Site in relation to surrounding landscape features.

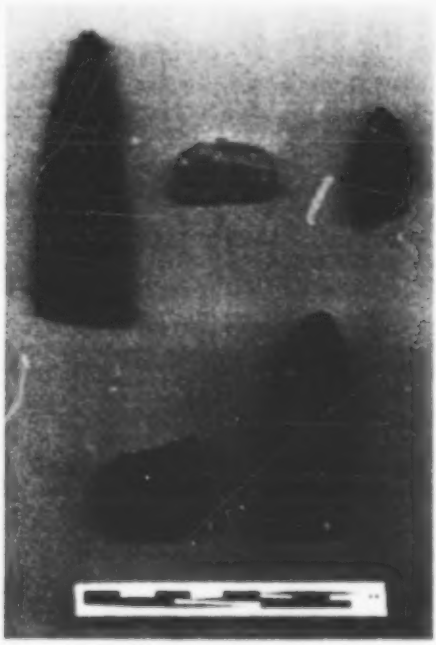

FIGURE 6: Paleo-Indian artifacts from Healey Falls.

ing a ground axe fragment, several chlorite schist axe preforms, a Paleo-Indian preform, a barbed slate projectile point fragment, and a Brewerton Corner Notched point, as well as many large cores and chipping debitage. Although various wash episodes have reworked sediments and caused the displacement of some artifacts, the size and weight of other lithic specimens makes it unlikely that they were introduced into the talus deposit through flooding action. Rather, it seems probable that these pieces have eroded over time from the upper plateau. If so, this depositional event has particular significance in relation to the Paleo-Indian artifact recovered from the talus.

Undoubtedly, the most important discovery made at the Healey Falls site this season concerns a possible Paleo-Indian occupation of the area. A spurred scraper was found during the archaeological survey of the site in 1995 (Ross and D'Annibale 1996b: 16), but it was not until 1997 that more diagnostic Paleo-Indian artifacts were recovered, including: a complete Lanceolate point, a Lanceolate basal fragment, a reworked Medina Stemmed Lanceolate point, a fluted base fragment, and a possible Barnes-type preform (Figure 6). The lanceolate points can be securely assigned to the Late-Paleo Indian period, while the fluted fragment and the preform may even suggest an Early Paleo-Indian presence at the site. Although the contexts from which these artifacts were recovered have been disturbed by flooding, and, in fact, the entire excavation area was likely submerged during the Late Pleistocene/ Early Holocene, the discovery of this early material suggests the presence of a possibly intact Paleo-Indian site component in the immediate vicinity (Ross and D'Annibale 1998). The plateau situated atop the escarpment, lying approximately 20 metres above the area of current excavations, may be the origin of this Paleo-Indian material.

Evidence of continual human presence at Healey Falls dates from the Paleo-Indian period to the mid 20th century, with the most intensive phases of site use occurring in the Middle Archaic, Late Archaic, and Middle Woodland periods (Farvacque and Ross 1998: 80). The importance of the site for tool manufacturing, especially for axes, is manifest. The lithic assemblage continues to be dominated, both in weight and in frequency, by chlorite schist, Iron Formation quartzite, Gull River chert, and quartz. Not surprisingly, these and other local lithic sources (e.g., shales, slate, Balsam Lake and Trent cherts) are represented by a large percentage of cores, shatters, and primary reduction flakes. Several axe preforms and broken bifaces were also recovered in 1997. The exotic lithic material found this season includes Onondaga, Kettle Point, Manitoulin, Amabel, Haldimand, Flint Ridge, and Normanskill cherts, and Jasper. Generally, the exotic materials are represented either by broken or reworked points, or by retouch flakes from tool recycling. Processing activities also played an important role at the Healey Falls site, as indicated

by the recovery of a large number of scrapers, scraper fragments, gravers, spokeshaves, and utilized flakes.

Of note was the discovery this season of several large cores of Gull River chert, one of which was found still partially attached to its limestone matrix. The nearest documented source of this chert type is located approximately 35 kilometers away from Healey Falls, at Marmora (Eley and von Bitter 1989: 32,33). However, since previous excavations had recovered mostly nodules and pebble cores of this chert, it was believed to have been transported closer to the site by glacial action (Ross and D'Annibale 1996b: 8). Given the size of the cores recovered this season, and the presence of the piece with limestone adhering, it now appears that an outcrop may be located in the immediate site area.

Prior to the 1997 excavations, evidence of Fur Trade period use of the Healey Falls site consisted of only a few artifacts. This season's recovery of 2 trade silver ring brooches, a tin-plated iron jew's harp, 3 glass beads, and a brass thimble has greatly contributed to the mid 18th to early 19th century assemblage from the site. Two European pipe fragments (a mouthpiece and a French-manufactured stem fragment) may also date to this period of site use. Perhaps the most remarkable aspect of the Fur Trade material collected in 1997 is its distribution across the site. All of these artifacts were found in the northeastern excavation units, within an area measuring no more than 10 meters in diameter. Bordering on a washout gully, this area has been subject to the most forceful disturbance from flooding, yet there appears to be a potential for some spatial integrity within the reworked deposits. Since this area did not produce a correspondingly high amount of small lithic debitage, this clustering of 18th century artifacts along the washout channel does not appear to be simply the result of the transportation and redeposition of small finds.

The Healey Falls site is truly unique. Having produced material dating to the Paleo-Indian, Archaic, Woodland, and Historic periods, the site provides a record of human occupation spanning 10,000 years. Extensive seasonal flooding continues to threaten the cultural resources at Healey Falls, and as a consequence, continued archaeological mitigation is required in the areas most affected by erosion.

NIAGARA NATIONAL HISTORIC SITES
NAVY ISLAND - SHORELINE RECONNAISSANCE AND FEATURE VERIFICATION (49H)

[Parks Canada Permit 97-9H]

Navy Island is a relatively small island (at 144 hectares) in the Niagara River, just above the Horseshoe Falls (Figure 7). The island was declared nationally significant by the Historic Sites and Monuments Board of Canada and plaqued, in 1928, to commemorate an 18th century British shipyard and the 19th century Mackenzie Rebellion occupation. Parks Canada became aware of the island's archaeological potential in 1985 when researchers visited Navy Island to conduct an assessment of drill sites and access routes for the National Hydrology Service. Historic and Aboriginal artifacts were found and erosion of the shoreline was noted in several areas.

In 1989, Parks archaeologists undertook the salvage of an Aboriginal burial, now dated to the Late Archaic Period (c. 1000 - 500 B.C.). At this time, evidence of the 19th century Parker Homestead site was first observed. The threat of shoreline erosion was again noted and local residents provided anecdotal accounts of metres of shoreline falling into the Niagara River every year. The potential for further human remains to be exposed by erosion was considered to be high. Consequently, in the fall of 1990, a shoreline survey and assessment of archaeological resources was conducted for Parks Canada by the Cataraqui Archaeological Research Foundation. Their two-volume report (Kennett 1991) highlighted major historical and aboriginal sites on the island and pinpointed two areas of extreme erosion (about 15% of the shoreline), three areas of severe erosion (approximately 20% of the shore), one area

with moderate erosion (10% of the shore) and about 55% of the shoreline with little or no erosion. Two brief follow-up surveys, undertaken in 1991 and 1992 (Jouppien 1992), served to collect more eroding artifacts and to continue to bring the severity of erosion to Parks Canada's attention.

These surveys indicated that the island has had a long history of human use. The most prevalent evidence of this use is from the Late Archaic. However, there is a major Early Woodland component on the island, as well. Middle Woodland and Late Woodland occupations are both present but poorly represented, and there is some material found dating to the Contact Period. Several artifacts hint at an early French use of the island, and a number of 18th century artifacts may relate to the British Naval Dockyard. Material that could be associated with the War of 1812 and the Rebellion period have been recovered, but the greatest quantity of 19th century material appears to be related to small, subsistence farmsteads. Of particular interest has been the discovery of a number of features (mostly structural) related to the 19th century Rebellion, farming, and the Queen's Hotel.

Water levels in the Niagara River were at an extremely low ebb during the summer of 1997, presenting an excellent opportunity to surface collect along the shore (Figure 8). This activity would augment the discoveries of the earlier surveys and provide a current indication of shoreline instability. Concurrent to the collection process, the location of each of the features reported by Cataraqui would be verified. Beginning at the site of the 19th century Queen's Hotel, the operation proceeded to the northwest towards the Parker Homestead site. Cultural material was collected from 24 beaches. Invariably all of these beach sites produced both Historic artifacts (mostly 19th century ceramics) and Aboriginal artifacts (mostly Onondaga flakes and cores). One of the beach sites produced a blue glass trade bead, suggestive of an earlier Historic presence. Although formal stone tools were found on only six beaches, most lithic assemblages contained utilized flakes. Four beaches produced Native ceramics, including a collared rim from one site and a rim with a coil break from another. An Iroquoian pipe bowl fragment was discovered on yet another beach. All productive beaches were directly associated with terrestrial findspots from the 1990 archaeological survey. While all of the material recovered in 1997 is the result of shoreline erosion, seven of the sites investigated this year were deemed to be in an active state of erosion.

The effort to re-locate the extant structural features on Navy Island was also a success. The two reputed Rebel structures at the southeast end of the island were found. The huge cellar depression from the Queen's Hotel, as well as its wharf, well, and wash house, were visited, as was the rather deep, large and well defined depression just north of the Hotel complex. This depression may represent a 19th century squatter's homestead. The historic fields, wharf and house remains of the early 20th century Bolender farm were easily found, and another cellar depression, likely associated with another squatter's homestead, was located. Yet another unidentified depression was discovered this season on the southwest shore of the island. This is a large and deep feature that measures over 2 m in diameter. While this depression is visible on a 1965 air photograph of the island (Figure 7), earlier survey teams failed to identify it from the ground. At first sight, it appears to be another possible cellar depression with an encircling berm, except that it is much more rounded in outline. It is possible that this is an old bomb crater from when the British forces bombarded the rebel emplacements in 1837.

A reputed Rebel battery on the western point of the island has never been found, even after a concerted effort by Parks Canada archaeologists, in 1994 (Ross and D'Annibale 1995:21). However, Cataraqui did report finding a shallow depression with a raised embankment further to the east, along the south shore, that they interpreted as a possible Rebel battery (Kennett 1991:55). This feature was relocated in 1997, along with two adjacent depressions rimmed with berms of earth. All three depressions form a line along the lip of a natural, shallow swale in the landscape, and all are bermed along their western edges.

If these are indeed Rebel gun emplacements, it would appear as though they were oriented towards the mainland, especially in the direction of the Welland River (i.e., facing the attacking British force). It was also noted that the entire area is literally riddled with small depressions that may be indicative of the intensive shelling that the island was submitted to by the British.

The 1997 shoreline survey of Navy Island has resulted in much useful information to help guide future efforts towards mitigating the effects of shoreline erosion on archaeological resources. As mitigative measures near their completion at the Parker Homestead site, efforts must be re-directed to other problem locales. One criterion to be used in setting priorities will be the presence of an active erosion threat. This year's work has identified seven locations under such threat. All seven of these sites appear to date primarily to the Late Archaic/Early Woodland Period, a period of significant cultural adaptations throughout the Niagara region. Erosion is also threatening the island's nationally significant Historic resources, having been blamed for the disappearance of the western Rebel battery. The success of this season's efforts in relocating the known historic structural features on the island will serve well in regularizing the monitoring of their conditions over the next few years.

NIAGARA NATIONAL HISTORIC SITES:
NAVY ISLAND MITIGATION - PARKER HOMESTEAD SITE (49H167, 49H168)

[Parks Canada Permit 97-9H]

The archaeological mitigation of the Parker Homestead site, on the north shore of Navy Island, has been an ongoing project since 1994. The site is located along a portion of the island that is continually affected by uncontrollable shoreline erosion. Consequently, annual salvage excavations have been necessary to protect cultural resources from destruction (see Ross and D'Annibale 1995, 1996; Ross, D'Annibale and Spence 1997). The focus of the 1997 season was on the south-eastern area of the site, as it was clearly under the most immediate threat of being washed into the Niagara River (Figure 9). During the four weeks of this project, an area consisting of 26 square metres was excavated.

Thomas Parker and his family were squatters on Navy Island from the mid 1840s to the early 1870s. Although the majority of the artifacts from the site date to this period of occupation, the only structural evidence of the Parker homestead, found prior to this season, was a large post-1850 root cellar. During this year's excavation, however, two separate mottled pit features with extant architectural remains were encountered in the vicinity of the cellar. The features, located 6 metres apart, were somewhat rectilinear in shape. Measuring approximately 1 x 1.2 metres in outline, each contained a post resting on a wooden sill at a depth of 53-59 centimetres below present ground surface (Figure 10). As excavated, the wooden sills were 2 cm thick, approximately 40 cm long and 25 centimetres wide. One post was fairly well preserved, having a base diameter of 22 centimetres; the other was in an advanced stage of decomposition, measuring only 15 centimetres in diameter. These posts probably served as floor supports for the Parker home. Several features of comparable size and heavily mottled soil composition have been found during previous seasons at this site. Although none of them contained evidence of load-bearing wooden remains or discernable post moulds, it is possible that they relate to this function. The pattern of placement of these features suggests that the western extent of the Parker home may lie only four metres inland from the current shoreline -- meaning that most of the land on which the building was situated has already eroded into the river.

Two buried plough zones are found at this site. The most recent, found across the entire site area, caps historic features dating to the mid 1800s and contains many brick and plaster fragments, indicating that this ploughing activity occurred after the abandonment and destruction of the Parker homestead. This later event likely dates to the last quarter of the nineteenth century, when a large portion of the island was under cultivation

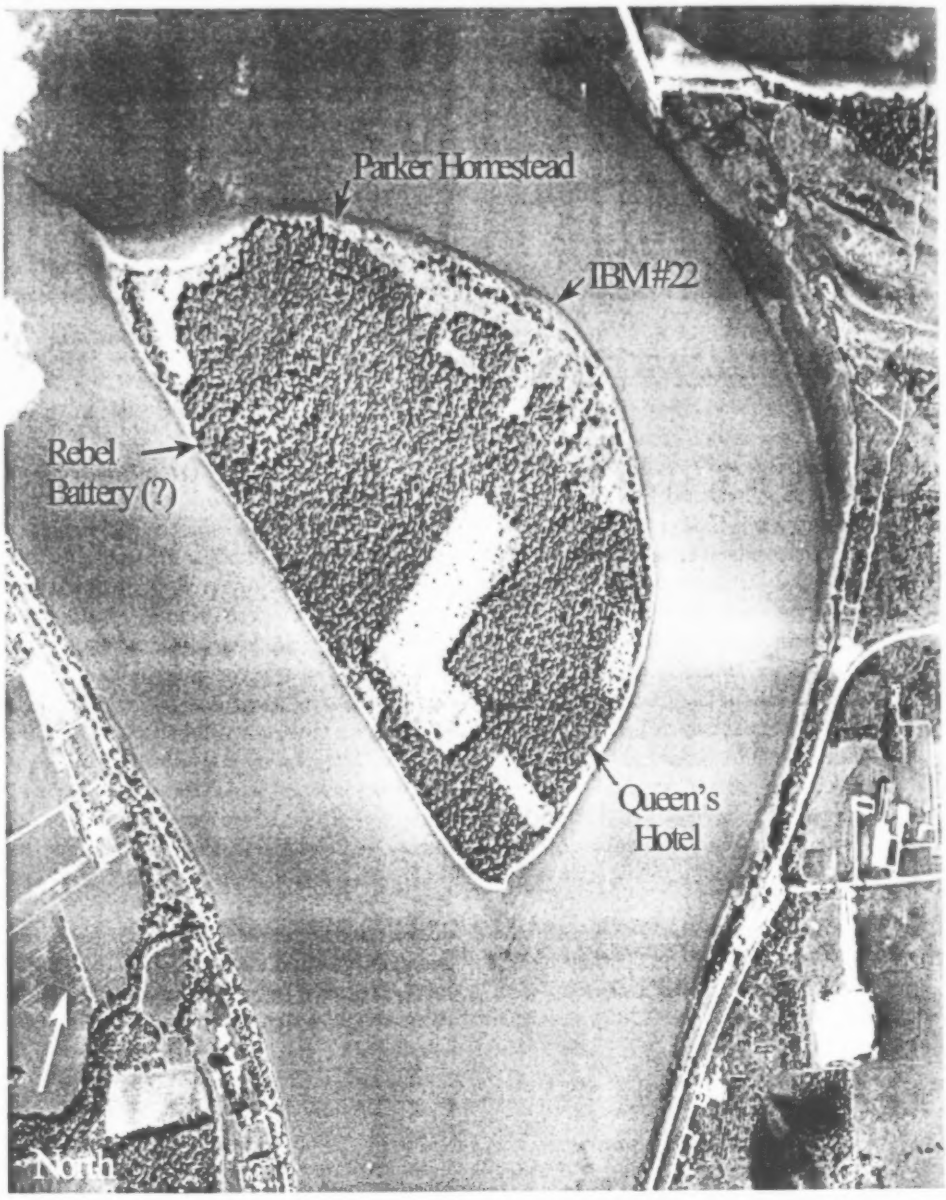

FIGURE 7: Navy Island, showing the location of the Parker Homestead, IBM #22, Queen's Hotel and Rebel Battery sites (Air Photo # AP9342-165, courtesy of the National Air Photo Library, Ottawa).

FIGURE 7: Navy Island, showing the location of the Parker Homestead, IBM #22, Queen's Hotel and Rebel Battery sites (Air Photo #A19342-165, courtesy of the National Air Photo Library, Ottawa).

by the Niagara Fruit Growers' Association. The presence of many squatters and tenant farmers on Navy Island in the early twentieth century (Kennett 1991:28) could also account for this later disturbance. This year's excavations confirmed the presence of an earlier plough event, dating to the Parker family period of occupation, that directly underlies the late 19th/early 20th century plough zone. Its presence appears to be localized to the southeastern portion of the site.

As a result of this mid-nineteenth century plough disturbance, the units excavated in 1997 failed to reveal any intact Native features or living floors. The artifact assemblage, however, continues to indicate that the primary Native occupation of the site dates to the Late Archaic/Early Woodland period. Evidence that the site functioned as a major tool manufacturing locus during this time period has been augmented by this season's recovery of several broken bifaces, cores, chipping debitage, and two complete points -- a Meadowood and a large Perkiomen-type point (Figure 11). The presence of a few scrapers, spokeshaves, utilized flakes, and a drill base reworked from a broken side notched point (Figure 11) suggests that processing activities were also carried out on the site. With the exception of one retouch flake of an unidentified chalcedony, all of the tools and debitage are of Onondaga chert.

In conjunction with the annual salvage excavations of the Parker Homestead site, efforts are made each season to modify the slope of the bank. Back dirt from excavated units is used to soften the grade of the existing embankment in attempts to create a buffer against further erosion and undercutting. This strategy is proving to be successful, as the central portion of the site seems to have stabilized over the past few seasons. The only area of the site that still remains under an immediate threat of destruction is to the immediate north, where mid-eighteenth century French and/or English material has been recovered during previous excavations. This area will be the focus of future mitigation at the Parker Homestead site.

NIAGARA NATIONAL HISTORIC SITES: NAVY ISLAND MITIGATION - INTERNATIONAL BOUNDARY MARKER NO.22 SITE (49H25)

[Parks Canada Permit 97-9H]

While the problem of severe shoreline erosion is being mitigated at the Parker Homestead site (Ross and D'Annibale 1996:119), many other parts of Navy Island continue to suffer degradation unabated. Both standard and environmental engineering methods to stabilize the island's banks have been determined inadequate in arresting the erosional process. The threat to archaeological sites is therefore uncontrollable and salvage excavation has been deemed the only recourse. The International Boundary Marker No. 22 site (hereafter referred to as the IBM 22 site) is one such site slated for mitigation (Figure 8). The IBM 22 site is named after the twenty-second cement datum positioned by the International Boundary Commission, in 1912, between Canada and the United States of America. The site is just north of a clearing associated with the remains of the Bolender House, named for the family who were the last people to occupy the site in the early 20th century. This site was first archaeologically assessed in 1990 by the Cataraqui Archaeological Research Foundation (Kennett 1991: 70 and 139). Twenty (20) square meters of shoreline were excavated over a four week period, in 1997, in an attempt to stem the severe undercutting of the bank Figure 12).

The work revealed that, with the exception of the southernmost part of the excavations, the major stretch of shore consisted of an undisturbed Native occupation. Unlike the Parker Homestead site, where historic ploughing had reached the lowest Native cultural strata, the IBM 22 site was found to be in nearly pristine stratigraphic condition. The limit of historic ploughing is well demarcated, running in an east-west direction and coinciding with the northern edge of the Bolender field. Even where plough scars were present, these are shallow and gener-

FIGURE 8. Shoreline survey, Navy Island, in the area of the IBM #22 site.

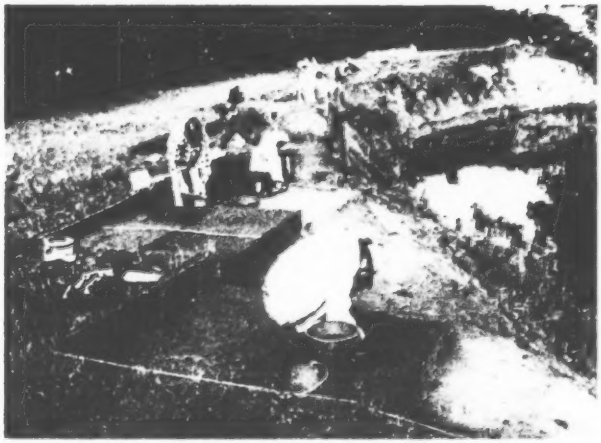

FIGURE 9. Excavations in progress at the Parker Homestead

ally nondestructive to the Native occupation layer beneath. A single post hole, that likely indicates an old fence line, was also found here. An historic hearth feature, measuring 90x60 cm in size and containing burnt bone fragments intermingled with earthenware ceramic sherds, was found just beyond the agricultural field boundary.

Generally the first 15-20 cm of topsoil contained a light scattering of historic material. This showed no obvious concentrations and was probably the result of sporadic discards. The assemblage contains ceramics that could date to the Mackenzie Rebellion period of 1837, for which Navy Island is commemorated, by the Historic Sites and Monuments Board, as a nationally significant site. The other nationally significant aspect of Navy Island is an 18th century British shipyard. Shipyard activities actually began with the French, in the late 17th century, and ended with the British in the late 1760's. Even though this is not the site of the shipyard, evidence from this period of occupation includes 18th century wine bottle glass. Most of the Euro-Canadian material, though, is typical of the mid 19th century onwards. The most notable find from this period is an 1857 Bank of Upper Canada one penny token. A drill hole in the piece suggests that is was probably worn as a pendant.

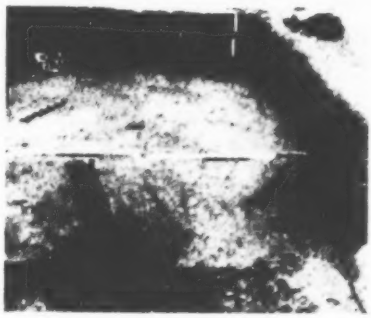

FIGURE 10
Post and sleeper feature at the Parker Homestead site, Navy Island.

The most significant component of the IBM 22 site is its Late Archaic/Early Woodland Native occupation. The undisturbed Native strata range anywhere from 10 to 30 cm in thickness, not including the 15-20cm mixed top layers. No features were found in association with this occupation, although the sporadic presence of fire cracked rocks and charcoal suggests the remnants of scattered hearths. As with the Native component of the Parker Homestead site (Ross and D'Annibale 1996:120), abundant chipped stone debitage from tool manufacturing was recovered. A number of such activity areas were identified. These areas were well defined, outlining typical one person workshops that consisted of a zone of extremely dense debitage with a gradually thinning scatter radiating outwards. It appears as though these knapping stations are spaced a couple of meters apart. If this spatial distribution is contemporaneous, it presents evidence for tool manufacturing as a communal activity. It also appears as if the various stages in the reduction process were spatially segregated. Whereas most work stations are for biface reduction, a central area seems to have specialized in the initial trimming of large blanks or cores, including the production of large flakes.

Although previous beach and surface collections at this site have produced a few complete projectile points, only three broken projectiles were recovered from this year's excavation (Fig. 13). With the exception of one complete biface, eight biface fragments were found (Fig. 13). Also retrieved were broken retouched flakes that possibly represent the beginnings of biface or projectile point manufacture. Such flakes emphasize the primary function of this site as a tool manufacturing locus. Other, secondary activities are suggested by the recovery of one scraper, a spokeshave and 30 utilized flakes. With the exception of two flakes of Upper Mercer and Flint Ridge chert, possibly from tool resharpening, the rest of the material is exclusively Onondaga. No Native ceramics were found.

Continued shoreline mitigation is revealing that the transitional Late Archaic /Early Woodland phase represents the most significant Native occupations on Navy Island. Although the Navy Island finds have yet to rival the scale of those from the Meadowood phase on neighboring Grand Island (Granger 1978:157-254), they are no less important in understanding this phase in the history of the Niagara region. As with the Parker Homestead site, the IBM 22 site is proving that Navy Island as whole has a great potential for defining the transitional sequences between these two great cultural periods for this area.

REFERENCES

Archaeological Services Inc.
1993 "An Assessment of Archaeological Resources in Private Hands, St. Lawrence Islands National Park." Report on file with Parks Canada, Ontario Service Center, Cornwall.

Bates, Christina
1987 "A Community Vanished: History of Grenadier Island in the St. Lawrence River." Report on file with Parks Canada, Ontario Service Center, Cornwall.

Betts, Mattew
1996 "Surface Hardness as an Indicator of Exposure Age: The Application of a

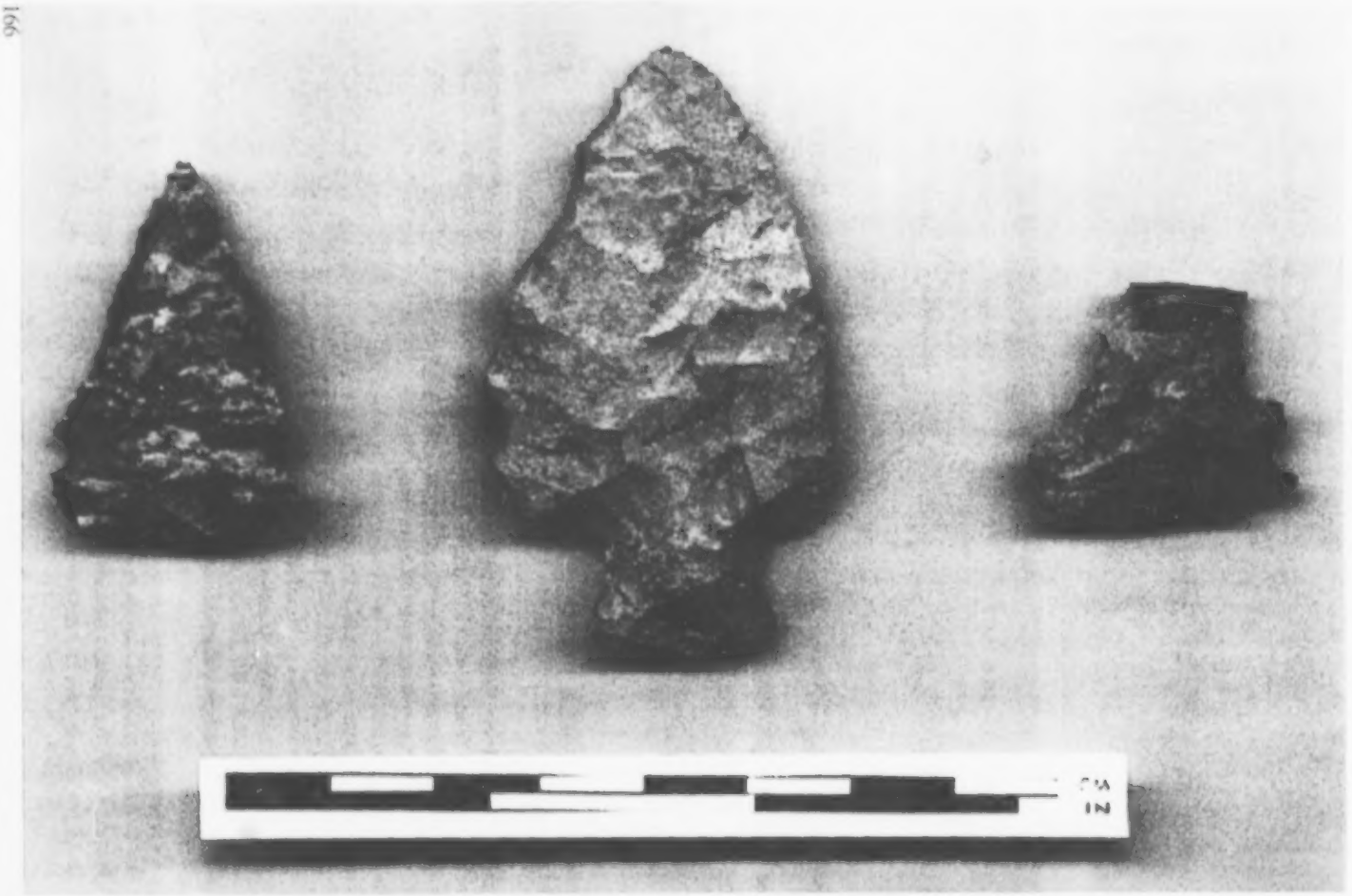

FIGURE 11. Meadowood point, Perkiomen point and re-worked drill from the Parker Homestead site, Navy Island.

FIGURE 12. Shoreline mitigation in progress at the IBM #22 site, Navy Island.

FIGURE 13. Late Archaic and Early Woodland projectiles (top row) and biface fragments from the IBM #22 site, Navy Island

New Dating Technique to the Pukaskwa Pits". Report produced in completion of an independent study course, Scarborough College, University of Toronto, Toronto.

D'Annibale, Cesare and Brian D. Ross
1994 "After Point Peninsula: Pickering vs. Owasco in the St. Lawrence Valley." *The Bulletin: Journal of the New York state Archaeological Association* 107:9-16.

Dawson, Kenneth C.A.
1975 "Archaeological Shore Survey at Pukaskwa Park Ontario, 1974". Manuscript on file at Parks Canada, Ontario Service Centre, Cornwall.

Eley, Betty E. and Peter H. Von Bitter
1989 *Cherts of Southern Ontario*. Royal Ontario Museum, Toronto.

Farvacque, Remi N. R.
1994 "Preliminary Report for Archaeology Permit 93-0002H, Pukaskwa National Park". Manuscript on file at Parks Canada, Ontario Service Centre, Cornwall.

1997 *Holocene Environments Along the Lake Superior Coast of Pukaskwa National Park, Ontario*. Master of Science thesis, University of Waterloo, Waterloo, Ontario.

Farvacque, Remi N.R. and Brian D. Ross
1998 "From Portage to Dam: The Healey Falls Site, Trent-Severn Waterway National Historic Site (45H)." Manuscript on file with Parks Canada, Ontario service Centre, Cornwall.

Granger, J. E.
1978 *Meadowood Phase Settlement Patterns in the Niagara Frontier Region of Western New York State*. Anthropological Papers, University of Michigan Museum of Anthropology. No. 65, Ann Arbor.

Jouppien, J. K.
1992 "Limited Archaeological Assessment of Navy Island Niagara River, Ontario". Report on file with Parks Canada, Ontario Service Centre, Cornwall.

Kennett, Brenda L.
1991 "Archaeological Resource Evaluation Navy Island Niagara National Historic site." Report on file with Parks Canada, Ontario Service Center, Cornwall.

Northeastern Archaeological Associates
1994 "Inventory of Historic and Archaeological Resources for St. Lawrence Islands National Park." Report on file with Parks Canada, Onatrio Service Center, Cornwall.

Ross, Brian D.
1994 "1993 Field Season Summary: National Parks and Native Sites Archaeology Programme, Department of Canadian Heritage (Parks Canada), Ontario Region". *Annual Archaeological Report, Ontario (New Series)* 5:13-15.

Ross, Brian D. And Cesare D'Annibale
1995 "1994 Field season Summary: National Parks and Native Sites Programme, Department of Canadian Heritage (Parks Canada), Ontario Region". *Annual Archaeological Report, Ontario (New Series)* 6:20-24.

1996a "National Parks and Native Sites Archaeology (1995), Department of Canadian Heritage (Parks Canada), Ontario Region." *Annual Archaeological Report, Ontario (New Series)* 7:109-123.

1996b. "Preliminary Reconnaissance and Testing of Threatened Archaeological Assets at the Healey Falls Site, Trent-Severn Waterway, Ontario." Report on file, Department of Canadian Heritage (Parks Canada), Cornwall.

1998. "The Tantalizing Case for a Paleo-Indian Presence at Healey Falls." Report on file with Parks Canada, Ontario Service Centre, Cornwall.

Ross, Brian D.; Cesare D'Annibale and Kyla Spence
1997 "National Parks and Native Sites Archaeology, Department of Canadian Heritage (Parks Canada), Ontario Region: The 1996 Field Season". *Annual Archaeological Report, Ontario (New Series)* 8:112-122.

Spence, Michael W., Robert H. Pihl and Carl Murphy
1990 "Cultural Complexes of the Early and Middle Woodland Periods". *The Archaeology of Southern Ontario to A.D. 1650*. Eds. Chris J. Ellis and Neal Ferris, Occasional Publication of the London Chapter, OAS, 5:125-170.

Wright, J. V.
1978 "An Archaeological Survey of St. Lawrence Islands National Park." Report on file with Parks Canada, Ontario Service Center, Cornwall.

1980 "The Gordon Island North Site: A Preliminary Statement". Report on file with Parks Canada, Ontario Service Center, Cornwall.

A BIBLIOGRAPHY OF PEER-REVIEWED ARTICLES AND BOOKS ON THE ARCHAEOLOGY OF ONTARIO: 1997

Anselmi, Lisa M., M. Latta and R.G.V. Hancock
"Instrumental Neutron Activation Analysis of Copper and Brass from the Auger Site (BdGw-3) Simcoe County, Ontario." *Northeast Anthropology*. No. 53. pp. 47 - 59

Bursey, J.A.
"Lessons from Burlington: A Reconsideration of the Pickering vs. Glen Meyer Debate". *Northeast Anthropology* No. 53. pp. 23 - 46

Bursey, J.A.
"Stone Artifiacts from the McQueen-McConnell Site, A Protohistoric Petun Village." *Ontario Archaeology* No. 63. pp 85 - 100.

Carpin, Gervais
"Les Amérindiens en gevre (1500 - 1650)". In *Recherches Amérindiennes au Québèc*. V. XXVI Nos. 3 - 4. pp. 99 - 114

Crawford, Gary W., David G. Smith and Vandy E. Bowyer,
"Dating the Entry of Corn (Zea mays) into the Lower Great Lakes Region." *American Antiquity* 62 . pp. 112 - 119.

Ellis, Christopher
Book Review. "The Cummins Site complex and Paleoindian Occupations in the Northwestern Lake Superior Region." by P. Julig. in *American Antiquity* V. 62 No. 1 pp. 173

Ellis, Chris J. and Deller, D. Brian
"Variability in the Archaeological Record of Northeastern Paleoindians: A View from Southern Ontario." *Archaeology of Eastern North America* V. 25 pp. 1 - 30

Ellis, Chris J. and Michael W. Spence
"Raw Material Variation and the Organization of "Smallpoint" Archaic Lithic Technologies in Southwestern Ontario." In *Preceramic Southern Ontario*, edited by Philip Woodley and Peter Ramsden. Occasional Publications in Northeastern Archaeology No. 9. Copetown Press, Dundas, Ontario

Erickson, Annette
Book Review "Human PaleoEthnobotany" by S. Monckton. in *American Antiquity*. V. 62 No. 1 pp. 173 - 174

Fox, William A.
"Constructing Archaeological Expectations from Meskwaki Ritual".

Michigan Archaeologist. v. 43 No. 1 pp. 3 - 25

Hancock, R.G.V., Aufreiter, S., and Kenyon, I.
"European white glass trade beads as chronological markers", *Materials Issues in Art and Archaeology*. Materials Research Society, Pittsburg, U.S.A., vol 462, 181-191.

Jackson, Lawrence J.
"Caribou Range and Early Palaeo-Indian Settlement Disposition in Southern Ontario, Canada." In: *Caribou and Reindeer Hunters of the Northern Hemisphere*, edited by Lawrence Jackson and Paul Thacker, pp. 132 - 164, Avebury Press, Glasgow

Jackson, Lawrence J.
"New Late Palaeo-Indian Points for South-Central Ontario." *Current Research in the Pleistocene* V. 14 pp. 42 - 44

Jackson, Lawrence and Donna Morrison
"The Early Archaic of Ancaster: Meadowbrook Knoll, A Haldimand Chert Preform Reduction Site." In: *Preceramic Southern Ontario*, Occasional Papers in Northeastern Archaeology No. 9, edited by Phil Woodley and peter Ramsden, pp. 29 - 46, Hamilton.

Jackson, Lawrence and Donna Morrison
"The Early Archaic of Ancaster: Lithic Scatters and Stage 4 Decisions." *Kewa* 97(5) pp. 2 - 12

Kenyon, Ian T.
"Weeds Uprising Where The Hearth Should Be: Rural House Abandonment in Southern Ontario." *Ontario Archaeology* 64, pp. 39 - 55

MacDonald, Eva M.
"The Root of the Scatter: Nineteenth Century Artifiact and Settlement Patterns in Rural Ontario." *Ontario Archaeology* 64 pp. 56 - 80

McGarry, Karen Ann
"The Relationship Between Cultural Crisis and Material Culture Creativity Among the Ontario Iroquoians, ca. 1530 - 1650 A.D." Unpublished M.A. Thesis, Trent University

Ormerod, Trevor
"Organizing Chipped Lithic Technology at the Lone Pine Site." *Ontario Archaeology* 63, pp. 17 - 36

Parker, L.R. Bud
"The Fitzgerald Site: A Non-Meadowood Early Woodland Site in Southwestern Ontario." *Canadian Journal of Archaeology* V. 21, Issue 2

Pihl, Robert H. and Stephen Cox Thomas
"The Finch Site: A Late Iroquoian Special Purpose Site on West Catfish Creek." *Ontario Archaeology* 63 pp. 37 - 84

Robertson, David A., Eva M. MacDonald and Martin S. Cooper
"Among Marshes and Gneiss Mounds: The Archaeology of LaVase Island." *Ontario Archaeology* 64 pp. 8 - 38

Shott, Michael
"Activity and Formation as Sources of Variation in Great Lakes Paleoindian Assemblages". *Mid Continental Journal of Archaeology*. V. 22, No. 2 pp. 197 - 236

Smith, David G.
"Radiocarbon Dating the Middle to Late Woodland Transition and Earliest Maize in Southern Ontario." *Northeast Anthropology* No. 54 pp. 37-73.

Smith, David G.
"Recent Investigations of Late Woodland Occupations at Cootes Paradise,

Ontario." *Ontario Archaeology* 63: pp. 4 - 16. 1997b

Smith, David G. and Gary W. Crawford
"Recent Developments in the Archaeology of the Princess Point Complex in Southern Ontario." *Canadian Journal of Archaeology* 21: pp. 9 - 32.

Smith, David G., Trevor L. Ormerod and Andre A. Bekerman
"Small Princess Point Sites at Cootes Paradise." In *Home is Where the Hearth Is: The Contribution of Small Sites to Our Understanding of Ontario's Past*, edited by Jean-Luc Pilon and Rachel Perkins, pp. 87 - 96. 1997. Ottawa: Ontario Archaeological Society.

Steckley, John
"Wendat Dialects and the Development of the Huron Alliance." *Northeast Anthropology* No. 54 pp. 23 - 36

Snow, Dean
"The Architecture of Iroquois Longhouses". *Northeast Anthropology*. No. 53
pp. 61 - 84

Steiss, Deborah A., Ronald F. Williamson, Carol N. Ramsden and W. Bruce Welsh
"Archaic Ancaster: The Archaeology of the Meadowlands." In *Preceramic Southern Ontario*, edited by Philip J. Woodley and Peter Ramsden, pp. 97 - 118. Occasional Papers in Northeastern Archaeology No. 9, Copetown Press, Hamilton, Ontario

Tomenchuk, Jolin and Peter Storck
"Two Newly Recognized Paleoindian Tool Types: Single - and Double - Scribe Compass Gravers and Coring Gravers." *American Antiquity* V. 62 No. 3
pp. 508 - 522

Vaccarelli, Vito
"An Archaeological Narrative of York's Cultural Landscape." Ontario Archaeology 64. Pp. 81 - 111

Walker, Ian J., Joseph R. Desloges, Gary W. Crawford and David G. Smith
"Floodplain Formation Processes and Archaeological Implications, Lower Grand River, Southern Ontario." *Geoarchaeology* 12: pp. 865 - 887